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ABSTRACT

This volume traces broad outlines of the economy in the 20th century, its impact on the American worker, and evolution of statistical tools needed by policymakers, workers, employers, and researchers in a new century. An introductory essay (Donald M. Fisk) outlines the economic, technological, social, and business developments of the 20th century. Chapter 1 (N. Clyde Tucker, et al.) describes the evolution of collection of data on minorities, including a history of immigration to this country, early efforts to collect data on minorities through the decennial census, changes made to the Current Population Survey to help monitor the status of minorities in the labor force, the current labor force situation of minority workers, and current efforts to meet demands for better data on minorities. Chapter 2 (Thomas Moerhle, et al.) chronicles evolution of compensation practices in the 20th century and continuing efforts to capture them in useful statistical data. It discusses how variable pay benefits (profit sharing and stock options) are growing in importance and other benefits (family care and health promotion programs) have emerged. Chapter 3 (Daniel Hecker, Jerome R. Pikulinski and Norman C. Saunders) presents the evolution of classification systems in use in America over the past 100 years for both industry and occupational data collection efforts. It highlights how, though not often visible, economic classification schemes are critical in determining how well statistics reflect the true workings of the economy. Individual chapters contain reference lists, and sixty-two statistical tables are appended. (YLB)

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Report on the American Workforce

U.S. Department of Labor
Elaine L. Chao, Secretary

2001

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Preface

This is the Department of Labor's fifth *Report on the American Workforce*. Previous editions appeared in 1994, 1995, 1997, and 1999. Each volume has provided a broad context for analyzing the issues faced by the Department of Labor, as it delivers on its mandate to prepare the American workforce for new and better jobs and to ensure the adequacy and competitiveness of America's workplaces. In this volume, the *Report* traces the broad outlines of the economy in the 20th century, its impact on the American worker, and the evolution of the statistical tools needed by policymakers, workers, employers, and researchers, as they embark on a new century.

The *Report's* outline and context is presented in the opening message from Secretary of Labor Elaine L. Chao. An introductory essay outlines the economic, technological, social, and business developments of the just-completed century. The three chapters explore, in turn, demographic change and demographic statistics, the evolution of compensation and compensation reporting, and economic structure and economic classification. A compendium of statistical tables completes the book. Katharine G. Abraham, Commissioner for the Bureau of Labor Statistics, established the strategic direction for this series of reports. Deborah Klein and Richard M. Devens provided overall direction for this year's volume.

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Acknowledgments

The introductory essay outlines the progress of the American worker over the course of the 20th century. This piece also suggests the degree to which our understanding of the workforce, as result of refined statistics, improved substantially during the century. The introduction was written by Donald M. Fisk.

Chapter 1 describes the important changes in the composition of the American population and workforce that are the result of immigration and internal migration, particularly the movement of African American workers out of the South. These changes have driven the continuing development of methods for classifying demographic data to track the economic status of a growing variety of groups in the population. The authors of the chapter on minority measurement are N.Clyde Tucker; Geoffrey D. Paulin; Howard N Fullerton, Jr.; Thomas M. Beers III; Terry M. McMenamin; Abraham T. Mosisa; Sharon R. Cohany; and Howard V. Hayghe.

The second chapter chronicles the evolution of compensation practices over the course of the 20th century and the continuing efforts to capture these practices in useful statistical data. The components of compensation continue to evolve. Variable pay benefits—such as profit sharing and stock options—are growing in importance; and other benefits, such as family care and health promotion programs have emerged. The authors of chapter 2 are Thomas Moehrle, Jordan Pfuntner, Richard Schumann, Albert Schwenk, Robert Van Giezen, Michael Horrigan, William Goodman, and Michael Cimini.

Chapter 3 describes the structural evolution of the economy and the concomitant development of systems of industrial and occupational classification. Though not often visible, economic classification schemes are critical in determining how well statistics reflect the true workings of the economy. The chapter's contributors were Daniel Hecker, Jerome R. Pikulinski, and Norman C. Saunders. The authors wish to acknowledge the assistance of the History Staff of the Bureau of the Census, U.S. Department of Commerce.

The *Report* was edited by Monica Gabor, Daniel Houlder, and Monica Carpio and was designed and composed by Margaret Jones, Phyllis Lott, Dorothy Williams, and Bonita Boles, under the direction of Monica Gabor.

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Message from the Secretary of Labor

The American workforce has gone through many changes in the last century, none more striking than the way we work. At the beginning of the previous century, wages were low, and the Nation did not even measure unemployment. Today, BLS measures almost every aspect of the American labor force. The 20th century was, as Ben Wattenberg put it, "The First Measured Century."

This volume looks at the information we now know through these new measurements, examining three of the major 20th century changes in the compilation of labor statistics. The first chapter focuses on important changes to the composition of the American population and workforce, as enormous waves of immigration during the last century both augmented the labor force and challenged mechanisms of the labor market. Chapter 2 examines the evolution of compensation practices over the course of the 20th century, as workers' compensation packages evolved from a simple pay envelope at the end of the week to a complex set of cash payments and benefits. The final chapter of this report describes some of the efforts to measure structural changes that affected the economy, as industries and occupations changed throughout the century.

Thanks in part to these new measuring tools, the 20th century has been one of the most productive and dynamic centuries ever. But the 21st century promises to be even more exciting and enterprising for the American workforce. With all of the changes to come, America's 21st century workforce needs to do more than simply adjust to the new economy. To succeed in the 21st century, our Nation must be prepared to *embrace* the changes in our economy—in how we work, where we work, and how we balance our professional and family lives.

I believe that the Department of Labor should lead the way in anticipating and reacting to changes, thus helping all workers to have as fulfilling and financially rewarding careers as they aspire to have. To this end, we have created a new Office of the 21st Century Workforce. The office's mission is to provide all American workers with the opportunity to equip themselves with the tools necessary to succeed in their careers and in whatever field they choose in this new and dynamic global economy.

That does not mean we should change everything. We still need to protect workers' safety and health, retirement security, and equal access to jobs and promotions. But we also need to be open to new and better ways to achieve those goals, taking into account how Americans actually work today.

I want us to focus as a Department on three issues that will determine our Nation's economic strength in this century, and shape the quality of life for America's working families:

The skills gap. Our economy is making an unprecedented transition into high-skilled, information-based industries. This has created a disconnect between the jobs that are being created and the current skills of many workers.

Our demographic destiny. In just a few decades, we will have a growing class of retirees and a shrinking workforce. In addition, there will be an increasingly diverse group of Americans entering the workforce, bringing with them the need for truly new ways of organizing and managing work.

The future of the American workplace. Anyone can tell you that this is not our parents' economy. The average 34-year-old has already worked for nine different companies in his or her brief career. Around 10 million people work away from their corporate office at least 3 days a month. As people sort out the new priorities of financial needs and family life, they all face the same new concerns: A career move that leaves behind health care coverage; abandoning pension benefits before they are vested; renegotiating with each new employer the balance between work and home.

In this new century, BLS will continue to provide us the tools needed to face these challenges. With enlightened leadership, the private, public, and nonprofit sectors, working together, can develop innovative solutions to ever-more-complex labor market problems. Leadership will make us a nation open to the talents of all our people—including those who have been left out of the workforce until now. Ultimately, informed leadership will make our training programs effective "venture capital" for the 21st century workforce.

ELAINE L. CHAO
Secretary of Labor

Introduction

The 20th century was a remarkable period for the American worker, as wages rose, fringe benefits grew, and working conditions improved. Even though many statistics were sketchy at the beginning of the century, the picture is clear: The American workforce was much better off at the end of the century than it was at the beginning. And the statistics used to understand the condition of working Americans also improved over the course of the century, as we discuss in this *Report on the American Workforce*.

Comparison of the American workforce at the end of the 20th century, with that at the beginning, shows numerous changes. Some of these are dramatic; others less so. Many of these changes are well known, but some are not. In certain cases, statistical data are lacking to make quantitative comparisons between the beginning and end of the century; but most of the changes are discernible, nevertheless.

The size of the Nation's workforce increased roughly six fold during the 20th century. The workforce registered 24 million in 1900 with those aged 10 and above reporting a gainful occupation;[1] in 1999 it was 139 million (aged 16 and older).[2] But it is not just the sheer numbers that are striking. The composition, compensation, workplace, and very nature of work also changed during the century.

Over the course of the 20th century, the composition of the labor force shifted from industries dominated by primary production occupations, such as farmers and foresters, to those dominated by professional, technical, and service workers. At the turn of the century, about 38 percent of the labor force worked on farms. By the end of the century, that figure was less than 3 percent. Likewise, the percent who worked in goods-producing industries, such as mining, manufacturing, and construction, decreased from 31 to 19 percent of the workforce. Service industries were the growth sector during the 20th century, jumping from 31 percent[3] of all workers in 1900 to 78 percent[4] in 1999.

The labor force composition shifted in other ways, too. Female participation in the labor market grew dramatically in the 20th century. In 1900, only 19 percent[5] of women of working age participated in the labor force, whereas 60 percent[6] of them did in 1999. Furthermore, there was a marked change in female occupational employment. In 1900, only 1 percent of the lawyers and 6 percent of the Nation's physicians were women.[7] In 1999, the figures were 29 percent for lawyers and 24 percent for physicians.[8]

Child labor was common at the turn of the century, and many families needed the income earned by their children to survive. The 1900 census counted 1.75 million individuals aged 10 to 15 who were gainful workers.[9] At that time, these children comprised 6 percent of the labor force. There were no national laws that governed child labor, and while some States enacted and enforced such laws, most did not. By 1999, Federal and State law regulated child labor; and Federal law effectively prohibited full-time workers under the age of 16.

Statistics are sparse on minority participation in the labor force at the turn of the century, even by the standards of the day. Using the terminology of the day, census data show that the nonwhite workforce numbered a little under 3.8 million in 1900. This was about 14 percent of the labor force.[10] In 1999, the black workforce numbered 16.5 million, or about 12 percent, of the labor force.[11] There were also American Indians, Japanese, and Chinese in the labor force at the turn of the century, but their numbers were few compared with the Negro.[12] By 1999, the other minority groups had increased, but blacks remained the largest racial minority group, as we discuss in chapter 1 of this report.

In 1900, per capita income (in 1999 dollars) was $4,200; it was about $33,700 in 1999.[13] The average hourly pay of manufacturing production workers in 1999 was $13.90; in 1909, the first measured year, it was about $3.80 (in 1999 dollars).[14] In addition to wages

and salaries, benefits comprised a major part of employee compensation at the end of the 20th century. Statistics show that benefits averaged $5.58 per hour—or 27.5 percent of total compensation—in 1999.[15] (Benefit data are not available for the beginning of the century, but benefits were minimal—if available at all—to workers in the industrial economy.) One compensation series shows that benefits accounted for a little more than 1 percent of total compensation in 1929, the first year measured.[16] Wages and salaries improved during the course of the century, although in *real* terms they seem to have leveled off during the last quarter of the century. If total compensation—wages, salaries and benefits—is examined, the trend remains positive.

The average workweek dropped dramatically during the 20th century. In 1900, the average workweek in manufacturing was 53 hours,[17] and in 1999 it was about 42 hours.[18] But the decline was not steady, as the workweek is very sensitive to business conditions. During the great depression, the average number of hours per workweek for production workers in manufacturing dropped as low as 34.6. During World War II, it rose to 45.2 hours at one point. After the War, it stabilized at about 40 hours per week. The normal range for the four decades after World War II was 39 to 41 hours per week, but the factory workweek exceeded 41 hours for most of the 1992-1999 period.[19]

The number of hours at work varies by industry sector, as well as in response to the state of the economy. In 1999, the weekly average for the total private sector was 34.5 hours; and the average for the total goods-producing sector was 41.0 hours. The retail trade sector average workweek was 29 hours, wholesale was 38.3, construction was 39.1, and mining was 43.8. Average retail trade hours, for example, have shown a fairly constant drop since 1947, as industry added more part-time workers.[20] Mining hours, on the other hand, rose over that period. Workweeks in some sectors, such as manufacturing and construction, are impacted by changes in the economy; and many sectors, including retail trade and construction, are affected by seasonal changes.

Workplace safety improved dramatically during the 20th century. Almost 1,500 workers[21] were killed in coal mine accidents in 1900. However, in 1999, the figure[22] was 35. And it was not just coal mines that were unsafe. There were 2,550 railroad workers[23] killed in 1900, compared with 56 in 1999.[24]

These two industries were picked because of data availability, as fatality statistics are not available for most industries at the turn of the century. Moreover, injury data are not available at the beginning of the century for *any* industry. Some national injury data were collected in 1911, but detailed statistics were not available until later in the century. Whether accidents are fatal or not, statistics indicate that they are less common, and the workplace is a much safer place, for the worker at the end of the century than at the beginning.

If an employee was injured on the job in 1900, his only recourse for compensation was to sue for damages. Such lawsuits were generally unsuccessful. It is estimated that at that time only 15 percent of workers injured on the job were successful in obtaining any damages under common law.[25] By 1999, there were a number of government programs that assisted those injured on the job. Long-term disability payments, Worker's Compensation, and other provisions in statute or contracts provided safety nets for the worker in 1999 that did not exist in 1900.

Unemployment is estimated at 5 percent[26] in 1900; in 1999 it averaged 4.2 percent.[27] While these two figures are not much different, they reflect very different dynamics. Data from four States—California, Kansas, Maine, and Michigan—and the 1910 census suggest that workers around the turn of the century faced a high probability of being laid off or unemployed sometime during the year. But the length of time one was unemployed was likely to be shorter than it was at the end of the century.[28] In 1999, the median duration of unemployment was 6.4 weeks.[29]

There were 19 business cycles in the 20th century.[30] As a result, the century experienced periods of very low unemployment and periods of extremely high unemployment. Between 1900 and 1908, the unemployment rate fell below 3 percent. Later in the century, rates above 8 percent were recorded during recessions, such as those in 1915, 1921, 1975, and 1982. The highest rates of unemployment came during the Great Depression, when there were rates above 20 percent for several years. In 1933, there were more than 12 million workers unemployed; and the unemployment rate averaged 24.9 percent. More recently, double-digit unemployment rates were recorded during parts of 1982 and 1983, but

there was a fairly steady decline from 7.8 percent in mid-1992 to 4.1 percent at the end of 1999.[31]

Forces of change

What forces underlie the changes of the workforce in the 20th century? Technology, capital, demography, immigration, education, and government intervention are often mentioned. In most cases, it is impossible to point to a single force or action that led to changes in the workforce. Most changes reflect the confluence of several factors or events.

Technology entered the workplace in a massive way in the 20th century. The list of technological improvements in the workplace in the last century is almost endless: Communication devices, measuring devices, computer controlled equipment, the x-ray, wind tunnel, arc welder, circuit breaker, transistor, geiger counter, laser, neon lamp, teletype, fiber optics, stainless steel, and the atomic clock. The list goes on and on. At the turn of the century, only 5 percent of the Nation's factories used electricity to power their machines.[32] However, by the end of the century, electrical powered machines were ever present; and heating, air conditioning, and air filtration were common in the workplace. And technological improvements often resulted in improved safety in the workplace, as technology replaced the worker in some of the more dangerous tasks.

Additionally, technological improvements that entered the home in the 20th century led to major changes in the workplace, as more homemakers were able to shift some of their time from home production to paid jobs. At the same time, new industries were created to serve the home; and existing industries expanded. Electricity was in less than 10 percent of the Nation's homes at the turn of the century, but it was almost universal by the end of the century.[33] New machines introduced in the home in the 20th century included the refrigerator, dishwasher, clothes washer, dryer, iron, vacuum cleaner, microwave oven, automatic toaster, electric razor, and electric hairdryer. In addition, there was prepackaged food, frozen food, and a host of other convenience items. The list could extend for many pages. Expansion of the paid workforce was certainly facilitated by these labor-saving goods and devices that were introduced into the home in the 20th century.

Likewise, technological improvements have worked their way throughout the economy. Medical advances have extended the life span of individuals and have led to fewer and less severe illnesses, allowing workers to work longer with less debilitating illnesses. Those injured on the job were more likely to return to work sooner. There was a host of new drugs and medical procedures; and new contraceptives facilitated family planning, especially impacting women workers. Major changes in transportation, primarily the use of the automobile, led to massive shifts in the location of the workplace. Factories were resettled to areas of cheap land and built on single levels. No longer were factories tied to the city. The explosion of communications permitted further dispersal of the workplace. The automobile also led to dispersion of the home and shopping. Computers were a major factor in the economic growth of the last decade of the 20th century, but the overall importance of computers in the economy and workplace will not be known for decades.[34]

To put the new technology to work often required massive amounts of capital. In 1996, for example, investment in information technology per worker was $29,200 for telecommunications; $7,600 for real estate; and $4,600 for railroads.[35] While real capital input increased 3.8 percent per year between 1948 and 1998 for the private sector, information equipment and software increased 11.4 percent per year; and computers and related equipment software increased 27.8 percent per year.[36] In 1999, the economy consumed over one trillion dollars of fixed capital. Without capital, technology would not have made its way into the workplace.

Changes in the demographics of the population in the 20th century had a profound impact on the workplace. The population aged, became more diverse, and grew dramatically. In 1900, the life expectancy of a newborn was 47.3 years;[37] in 1999 it was 77.0.[38] In 1900, 80 percent of American children had a working father and a stay-at-home mother, however, by 1999, that figure was only 24 percent.[39] The population at the beginning of the century was 76 million, but approached 280 million by the end of the century. (The official 1999 Census count is 273 million, but the 2000 Census counted 281 million).[40]

Immigration was crucial to the development of the U.S. economy and the workplace

in the 20th century. In 1900, 448,572 individuals passed through immigration control, and for the decade as a whole (1900-9) there were 8.2 million.[41] Those of work age had come to find employment and a stake in a better job. Most were laborers or listed no occupation on their entry documents.[42] (Recent numbers are only slightly larger and, as a proportion to the overall population, a great deal smaller.) In 1998, there were 660,477 legal immigrants; and for the decade as a whole (1990-99), there were close to 10 million.[43] During the 1930s and 1940s, in contrast, immigration dropped to less than 100,000 per year, as a result of the strict quota system established under the National Origin Act of 1929. But the Immigration and Naturalization Act of 1965 removed racial quotas and opened the doors to a large number of non-European immigrants. Immigration laws had a major impact on the labor force, as discussed at length in chapter 1 of this report. Indeed, one observer suggests "that quotas restricting the less-skilled immigrant labor were the single most important piece of labor legislation in the twentieth century."[44]

However, it was not just immigration that changed the workplace in the 20th century. Education played an important role in the advancement of the individual worker, the workforce, and the economy; and during the 20th century, there was a steady increase in educational attainment. In 1900, less than 14 percent of all Americans graduated from high school.[45] By 1999, that figure had increased to 83 percent.[46] In 1910, the first year for which estimates are available, less than 3 percent of the population had graduated from a school of higher learning.[47] By 1999, the figure was 25 percent.[48] Furthermore, increased education resulted in substantial monetary payoff for the individual worker. Men with college degrees earned 62 percent more and women 65 percent more in hourly compensation than did those with a high school degree, at the end of the century [1997].[49] A substantial part of the growth of the economy is attributable to increased education.[50]

There is no question about the increasing role of government during the 20th century.[51] But what impact did government intervention have on the workplace and on the workforce? This question is not easily answered. Even when there was workplace legislation, one cannot ascribe changes in the workplace to changes in the law. As one observer notes, "government intervention often reinforced existing trends, [such as in the case of] the decline of child labor, the narrowing of the wage structure, and the decrease in the hours of work."[52] In addition to workplace legislation, there was legislation directed at larger societal issues that had a dramatic impact on the workplace.

A number of pieces of legislation dealt with the workforce and workplace in the 20th century as discussed in chapters 1 and 2. In addition, there was general societal legislation that had an impact on the workforce and the workplace, although the focus of the legislation was elsewhere. Social insurance legislation, such as Social Security and Medicare, had a profound affect on the workforce and workplace, by providing many workers a retirement stipend and health insurance for the first time. Other legislation that had a profound impact on the workforce includes the 1990 Americans with Disabilities Act, the post-World War II GI Bill, and the Civil Rights Act. Studies show that the Civil Rights Act of 1964, specifically Title VII, had an important affect on hiring of black workers.[53] Other actions that impacted the workforce indirectly include the funding and building of the interstate highway system, funding of research and development, and enforcing patent and copyright laws.

Counting the changes

Much of what we know about the improvements in the workforce came from the advancements that were made in counting the workforce in the 20th century. Important developments came in methodology and data gathering. In addition, there was a major expansion of the data collection effort. Here, we briefly touch on some of these improvements and the underlying forces that set the stage for these developments. Details are discussed in the chapters of this report.

Statistics are often lacking on the American workforce at the beginning of the 20th century, as noted numerous times in this report. On the whole, data cited in this paper for the first part of the century are drawn from decennial census data or estimates by economic historians. Workforce data, for the first part of the century, are restricted largely to special studies that addressed subjects like child labor, immigrant labor, and pensions. Rudimentary statistics were produced on wages

and hours in manufacturing in 1904, but these series were discontinued in 1908 for more investigative reporting, as discussed in chapter 2 of this report.[54]

Wage and hours surveys were resumed in 1913, but resources permitted only 10 industry studies every other year.[55] These studies focused on industries, or industry groups, such as cotton, wool and silk. For each study, data were collected and published on hourly wage rates, full-time weekly earnings, fluctuations in employment during the year, volume of employment, and productivity. In 1916, the Bureau of Labor Statistics (BLS) began to publish monthly employment series for five industries.[56] This was the start of the establishment series on employment and payrolls.

Gaps in labor force statistics became apparent, with the mobilization for World War I. Federal statistics were "woefully incomplete and inadequate" according to Bernard Baruch, Chairman of the War Industries Board.[57] Wartime needs led to a massive expansion of statistical data. Prices and wages were of immediate concern, since wage rates needed to be adjusted to keep pace with inflation. In 1918, wage and hour surveys were expanded to 780 occupations in 28 industries, covering 2,365 establishments in 43 States.[58] There was also increased interest in information on strikes and lockouts. With the termination of the war, statistical budgets were trimmed, and the wage and hour program was reduced to its prewar level.

The next surge of interest in labor statistics came in the latter part of the 1920s. By 1927, there was monthly reporting of employment on 54 manufacturing industries covering 11,000 establishments; and in 1928-29, agriculture, mining, construction and trade were added to the reporting. Several studies addressed the issue of how to collect unemployment statistics, a continuing and unresolved issue at that time.[59]

The Great Depression provided the next great push to improved labor force statistics. Modern-day employment statistics, unemployment statistics, occupational statistics, and the like grew out of the Great Depression. The creation of the Central Statistical Board, in 1933, led to a number of new statistical initiatives. One created the Interdepartmental Committee on Industrial Classification, in 1937, that resulted in the creation of the Standard Industrial Classification (SIC) system. As discussed in chapter 3 of this report, this was the first time that the United States had produced a comprehensive industry classification system. Until that point, industry data collection was pretty much ad hoc, responding to immediate needs and what could be collected, given the time and available funding. The result was different data definitions and overlapping data collection. The SIC underwent four major revisions before being replaced in 1997 by the North American Industry Classification System (NAICS).

The Great Depression spawned a number of new laws, such as the Fair Labor Standards, which required new statistics on the labor force. Collection of unemployment statistics remained an unresolved issue in the 1930s. After many studies—and false starts—a household survey was undertaken; and national unemployment estimates were produced, for the first time, in 1940. In 1938, as discussed in chapter 3, the Central Statistical Board and the American Statistical Association moved to develop an occupational classification system that reflected the similarity of work, education requirements, skill levels, and socioeconomic class. This new classification was used in the 1940 census and the development of the Occupational Outlook Program. With the outbreak of World War II, the statistical focus changed from recession and depression to wartime needs.[60]

There was need for greatly expanded labor force statistics in World War II, as in World War I. United States statistical data collection and analyses shifted to focus on defense industries and the wartime economy. Wages and prices were controlled, and many items were rationed. At the beginning of the war, employment and wage data were collected on 90 industries; at the end of the war, data were collected on 180 industries. New defense-related industries sprung up overnight.[61] There was need for detailed, recurring data on price and wage changes. Occupational wage studies were expanded and refocused on the occupational skills needed by private industry to meet military needs. In order to set and control wages, wage reports were broken down by area and occupational group. Thousands of interplant wage inequity cases had to be heard and resolved, which required additional labor force information. The Cost of Living Index became a contentious political issue during the Second World War, because it was used to ad-

just and set wages. Basic issues, including changes in the quality of products and substitution affects, were the same ones that continue to torment developers of these indexes today. In 1945, the name of the index was changed to the Consumer Price Index.[62] The World War II era also saw the expansion of productivity studies and monthly reporting of industrial injuries.

Statistical data collection and reports were cut back following the conclusion of WWII; in fact, BLS staff was cut by 40 percent.[63] Data collection activities that remained were redirected from wartime to post-war problems. At about the same time, the Council of Economic Advisers and the Joint Economic Committee were created. Almost immediately, these two organizations focused attention on gaps in workforce data, leading to further changes in data collection and analysis. Worker budget estimates were revised and calculated for large cities, benefit studies were undertaken, and industry productivity studies were re-instituted. In 1948, General Motors and the United Auto Workers agreed to use the CPI to establish a wage-escalator clause, which gave new emphasis to the CPI, at a time when there was serious thought in cutting back funding of the index.[64] Occupational studies initially focused on veterans' re-entry into the labor force; later, studies reverted to their prewar focus of providing data for counseling young people in their choice of careers.

With the advent of the Korean War, there were demands to update much of the statistical program, especially the price and wage statistics which were needed to set price and wage guidelines. A revised CPI was instituted; and collective bargaining agreements were tracked, summarized, and published. The Wage Stabilization Board used the wage data to establish guidelines.[65]

The Vietnam War did not require the massive development of new data, as had the earlier wars of the 20th century. But the so-called "War on Poverty" introduced a whole new set of statistical requirements for information on the poor, unemployed, and minorities. The 1963 Vocational Education Act required the States to develop information on future occupations. This led to the development of occupational statistics by industry.[66] Many of the revisions and improvements in data did not take place until the 1970s, when new income support and training laws prompted more detailed reporting. The President's Concentrated Employment Program led to a series of studies on employment in poverty areas, and BLS introduced a quarterly series that tracked the situation in poverty areas in the United States. The Comprehensive Employment and Training Act of 1973 required information on unemployment and poverty by detailed geographic area.[67] This was also a period when inflation was a major economic and political issue, and the Cost of Living Council was established to provide guidelines on wage and price escalation that put renewed emphasis on price, wage and productivity statistics.[68]

The rest of the 20th century saw continuing improvement of workforce statistical data. These changes were evolutionary. While the decennial census collected data on occupations, it was not until 1977 that the first Standard Occupation Classification manual was published. As discussed in chapter 3, the manual grew out of the Bureau of the Budget's Office of Federal Statistical Policy and Standards initiative to develop a single occupational classification system that would be used by all major U.S. statistical organizations. It was at this time that occupational statistics were updated through a series of industry studies, and an industry-occupation matrix was developed for the first time. These statistics were necessary ingredients to the preparation of the industry and occupational projections. But this was not all. There were revisions in the industry and occupational classifications, as discussed in chapter 3, and additional minority and demographic data collected, as discussed in chapter 1. Wage data has also undergone major expansion to capture total compensation, as discussed in chapter 2. In 1980, the Employment Cost Index included benefits for the first time; and indexes were calculated and presented by occupational group and major industry.[69]

What comes next?

Chapter 1 is a discussion of the changing demographics of the workplace in the 20th century. This is followed, in chapter 2, by a discussion of workplace compensation, how it evolved, and how it was measured in the 20th century. Finally, chapter 3 addresses, in some depth, the development of industry and occupational classification, how it developed in the 20th century, and where we stand today.

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Endnotes

[1] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 11-25, p. 127.

[2] See *Employment and Earnings*, January 2000, p. 10.

[3] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 152-66, p. 138.

[4] See Census Bureau, *Statistical Abstract of the United States: 2000*, tables 656 and 682, pp. 410 and 426.

[5] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 11-25, p. 128. Data are for persons aged 10 years and older reporting a gainful occupation.

[6] See *Employment and Earnings*, January 2000, table A-3, p. 12.

[7] See Caplow, Hicks, and Wattenberg, 2000, pp. 44-45.

[8] See Census Bureau, *Statistical Abstract of the United States: 2000*, table 669, p. 416.

[9] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, p. 134.

[10] U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 26-35, p. 72.

[11] See *Employment and Earnings*, January 2000, tables A-3 and A-4, pp. 12-13.

[12] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 59-70, p. 9.

[13] See U.S. Council of Economic Advisors, 2000, pp. 279.

[14] See Caplow, Hicks, and Wattenberg, 2000, pp. 160-61.

[15] See *Employer Costs for Employer Compensation, 1986-99*, text table 1, p. 2.

[16] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 905-12, pp. 174-75.

[17] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 765-78, p. 168.

[18] Bureau of Labor Statistics, on the Internet at **http://stats.bls.gov/ceshome.htm** (visited Nov. 28, 2000).

[19] Ibid.

[20] Ibid. (visited Jan. 23, 2001), and *Monthly Labor Review*, November 2000, table 13, p. 66.

[21] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series M 271-86, p. 607.

[22] "National Census of Fatal Occupational Injuries, 1999," USDL 00-236 (Bureau of Labor Statistics, Aug. 17, 2000), table 3, p. 8.

[23] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 2, Series Q 398-409, p. 740.

[24] "National Census of Fatal Occupational Injuries, 1999," USDL 00-236 (Bureau of Labor Statistics, Aug. 17, 2000), table 1, p. 6.

[25] See U.S. Department of Labor, "Two Hundred Years of Work in America," 1976.

[26] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 85-86, p. 135.

[27] See *Monthly Labor Review*, November 2000, table 1, p. 56.

[28] See Goldin, 1994, pp. 34-36.

[29] See *Monthly Labor Review*, November 2000, table 7, p. 61.

[30] Cycles are counted peak to peak. (See Business Cycle Timeline.)

[31] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series D 85-86, p. 135; Caplow, Hicks, and Wattenberg, pp. 44-45; and Bureau of Labor Statistics, on the Internet at **http://stats.bls.gov/ceshome.htm** (visited Nov. 28, 2000).

[32] See U.S. Council of Economic Advisors, p. 279.

[33] See U.S. Council of Economic Advisors, p. 278.

[34] Ibid., pp. 100-01 and 281.

[35] Ibid., table 3-2, p. 113.

[36] "Multifactor Productivity Trends, 1998," USDL 00-267 (Bureau of Labor Statistics, Sept. 21, 2000), table 7, p. 22.

[37] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series B 107-15, p. 55.

[38] See Census Bureau, *Statistical Abstract of the United States: 2000*, table 116, p. 84.

[39] See U.S. Council of Economic Advisors, pp. 278 and 280.

[40] See U.S. Bureau of the Census, *Historical*

Statistics of the United States, Colonial Times to 1970, Part 1, Series A 1-5, p. 8; Census Bureau, "Resident Population Estimates of the United States by Age and Sex," on the Internet at **http://www.census.gov/population/estimates/nation/intfile2-1.txt** (visited July 17, 2001); and Census Bureau, "Resident Population of the 50 States, the District of Columbia, and Puerto Rico: Census 2000," on the Internet at **http://www.census.gov/population/estimates/nation/intfile2-1.txt** (visited July 17, 2001).

[41] See U.S. Bureau of the Census, *Historical Statistics of the United States, Colonial Times to 1970*, Part 1, Series C 88-119, p. 105.

[42] Ibid., Part 1, Series C 120-37, p. 110.

[43] See Census Bureau, *Statistical Abstract of the United States: 2000*, table 6, p. 9, and U.S. Immigration and Naturalization Service, *Statistical Yearbook of the Immigration and Naturalization Service, 1998* (Washington, U.S. Government Printing Office, 2000). Data is for fiscal year ending September 30.

[44] See Goldin, p. 53.

[45] See U.S. Council of Economic Advisors, p. 278.

[46] See Census Bureau, *Statistical Abstract of the United States: 2000*, table 249, p. 157.

[47] Ibid., table 1426, p. 877.

[48] Ibid., table 249, p. 157.

[49] See U.S. Department of Labor, *Report on the American Workforce*, 1999, p. 56.

[50] See Goldin, p. 50.

[51] Ibid., pp. 5-6.

[52] Ibid., p. 6.

[53] Ibid., p. 46.

[54] See Goldberg and Moye, 1985, pp. 37-38.

[55] Ibid., pp. 93-94.

[56] Ibid., p. 97.

[57] Ibid., p. 101.

[58] Ibid., p. 107.

[59] Ibid., pp. 128-31.

[60] Ibid., p. 167.

[61] Ibid., p. 165.

[62] Ibid., p. 158.

[63] Ibid., p. 178.

[64] Ibid., p. 179.

[65] Ibid., p. 202.

[66] Ibid., p. 240.

[67] Ibid., p. 241.

[68] Ibid., p. 249.

[69] Ibid., pp. 248-49.

Business cycle timeline

The chronology of the more or less regular recurrence of periods of economic expan-sion and contraction that make up the U.S. business cycle is maintained by the National Bureau of Economic Research (NBER), a private, nonprofit, nonpartisan research institution. NBER identifies turning points, that is, dates when economic activity turns in the opposite direction. For example, the most recent turning point was March 1991. Sometime during that month, the economy stopped contracting and started expanding. Thus, March 1991 was a business cycle trough. Similarly, July 1990 was a peak. Sometime during that month, the economy stopped expanding and started contracting.

A recession is a period of declining output and employment. A recession begins just after the economy reaches a peak and ends as the economy reaches its trough. Between trough and peak, the economy is in an expansion. Expansion has generally been the normal state of the economy; recessions have been brief and relatively rare in the latter part of the century.

Business Cycle Turning Points, 1899-1999

Peaks	*Troughs*
June 1899	
	December 1900
September 1902	
	August 1904
May 1907	
	June 1908
January 1910	
	January 1912
January 1913	
	December 1914
August 1918	
	March 1919
January 1920	
	July 1921
May 1923	
	July 1924
October 1926	
	November 1927
August 1929	
	March 1933
May 1937	
	June 1938
February 1945	
	October 1945
November 1948	
	October 1949
July 1953	
	May 1954
August 1957	
	April 1958
April 1960	
	February 1961
December 1969	
	November 1970
November 1973	
	March 1975
January 1980	
	July 1980
July 1981	
	November 1982
July 1990	
	March 1991

Chapter 1

Counting Minorities: A Brief History and a Look at the Future

Since the inception of the Republic, a wide variety of race and ethnic groups has comprised the American population. Some, like the ancestors of today's African Americans, came unwillingly, others fled starvation or religious or political persecution, while still others came simply for the chance to better their lives economically. As the population's diversity has increased, so has the need for data on minority groups. Such data not only help describe this diversity, but also assist in understanding how well—or poorly—various minority groups are faring and give decisionmakers some information on which to base policy proposals.

The purpose of this chapter is to describe the evolution of the collection of data on minorities, focusing on the decennial census and the Current Population Survey (CPS), the Nation's labor force survey. The chapter begins with a brief history of immigration to this country. It then goes on to describe early efforts to collect data on minorities through the decennial census. Next, it describes changes that were made to the CPS to help monitor the status of minorities in the labor force. A section summarizing the current labor force situation of minority workers, including subsections on immigrants, expenditures, and Bureau of Labor Statistics (BLS) projections of minority participation in the labor force, follows. The chapter concludes with a discussion of current efforts to meet demands for better data on minorities, particularly persons of multiracial backgrounds.

A History of Immigration and Migration

Colonial era. Initially, Britain's North American colonies were peopled by immigrants from the British Isles. These immigrants included not only those who came to the New World for economic gain, but also religious minorities, political dissidents, minor criminals, and indentured servants. Soon, however, the colonial economies began to grow rapidly, increasing their demand for labor. "By the beginning of the eighteenth century government officials had decided that it was in the interest of England to improve and thicken her colonies with people not her own."[1] Two strategies were followed in order to fill the gap. First, the slave trade was developed through royal charters. Second, Protestants from other European countries were actively sought as settlers, with funds often provided for their transportation.

Independence. After the Revolutionary War, immigrants continued to pour into the new country. Although the new nation had been able to end the British practice of transporting political and criminal prisoners, it was unable to put an end to the slave trade, despite the fact that many found it objectionable. Consequently, even though immigrants from Europe flowed to the United States in large numbers, it

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has been estimated that more Africans than Europeans came to the United States each year until 1840, and that cumulative European immigration did not surpass that of Africans until 1880.[2] This may seem shocking, considering that President Thomas Jefferson signed a bill in 1807 that made it illegal to import any person of color into the United States as a slave.[3] However, little effort was made to enforce this law over the next 50 years. Shipbuilders from Baltimore even continued constructing slave ships, and underwriters still insured those ships.[4]

Early on, problems assimilating some of the immigrants began to arise. Among the European immigrants were a sizable number of Germans and Irish who were Roman Catholics. Anti-Catholic sentiment began to emerge and was adopted by such groups as the Native American movement (not to be confused with American Indians) in 1837, followed by the Know-Nothing party around 1850. These were the first major political movements endorsing the limitation of immigration of certain groups,[5] thus marking the beginning of an exclusionary movement that eventually culminated in the highly restrictive National Origins Act of 1924.

The Great Irish Migration. During the 19th and early 20th centuries, Ireland, one of Europe's smallest countries, accounted for more immigrants than any other European nation. Indeed, for most of the second half of the nineteenth century, "the rate of Irish emigration was more than double that of any other European country, with as many as 13 per thousand emigrating on average each year."[6] Altogether, about 4.5 million Irish immigrated to the United States between 1820 and 1930 according to American statistics,[7] and the Irish represented at least a third of the foreign-born population of the country between 1850 and 1870. (See table 1-1.)

The failure of the Irish potato crop in 1845-46 helped provide the impetus for this mass migration. The Irish economy was largely agrarian, dependent upon the export of cattle and grain to England. Thus, most of the product of the Irish farmers was sold, leaving the potato as the staple food of the farmer and his family. Consequently, when the potato crop failed, famine ensued. The effects of this famine were profound; more than 1 million people died from starvation and disease.[8] Millions of Irish fled their homeland and, by 1891, the population of Ireland (4.7 million) was only 57 percent of what it had been 50 years earlier.[9]

Asian immigration and the origins of exclusionary legislation. While the Irish were crossing the Atlantic, Chinese laborers were crossing the Pacific. By the beginning of the Civil War, contract laborers from China had become abundant on the West Coast. However, they were soon perceived as competing with domestic labor; they typically worked long hours for considerably less pay than their domestic counterparts. In addition, their language and culture were very different from that of the predominant European-based culture. For a time, Chinese contract labor was concentrated largely on the west coast. But that changed following the completion of the Nation's first transcontinental railroad in May 1869. The next month, the Nation's first convention to discuss the importation of Chinese labor was held in Memphis, Tennessee, organized and attended by businessmen from nine southern States and California.[10]

A year later, 75 Chinese laborers arrived in North Adams, Massachusetts, to break a strike, working for pay less than half that of the striking workers.[11] Reacting to a perceived threat (Chinese labor was likened to slavery, and Chinese laborers were depicted as stealing food from honest white workers[12]), politicians began to introduce legislation aimed at limiting Chinese immigration or banning it altogether.

In 1879, the U.S. Congress passed the first immigration restriction law aimed at a particular nationality. The Fifteen Passenger Bill limited the number of Chinese passengers on any ship entering the United States to 15. But because it would have violated the 1868 Burlingame-Seward treaty between the United States and China, which recognized the rights of Chinese to emigrate, the bill was vetoed.[13]

In 1880, however, America and China signed a new agreement, called the Angell Treaty, that allowed the United States to limit Chinese immigration. Two years later, President Chester A. Arthur signed the Chinese Exclusion Act. This act barred Chinese immigrant laborers for 10 years. It was renewed in 1892, again in 1902 and, in 1904, was renewed for an indefinite length of time.[14] The passage of this act paved the way for further restrictive legislation affecting not only Asians, but Europeans as well.

European immigration in the late 19th and early 20th centuries. There was a pronounced shift in the country of origin of European immigrants beginning in the late 19th century. Originally, European immigrants tended to come from northwestern Europe. (See table 1-1.) In the late 1800s, this trend gradually began to change and, by the early 1900s, the majority of European immigrants were from southern and eastern Europe. These new immigrants came from areas with cultural and linguistic traditions considerably different from those of the earlier European immigrants. Thus, the United States found itself confronted by problems in assimilating these new immigrants.

President Theodore Roosevelt helped set up a factfinding commission to resolve the problem.[15] In 1911, the Immigration Commission published a report that "lamented the progressive shift in the sources of immigration away from northwestern and toward southern and eastern Europe, perceiving it as a decline in immigrant quality."[16] In 1917, a literacy act was passed (this had been attempted earlier, without success) to restrict European immigration and, in 1921, the United States passed the Emergency Quota Act, which applied immigration quotas based on nationality or origin. The provisions of this act were renewed and made more restrictive by the National Origins Act of 1924. The quota system was reaffirmed in the Immigration and Nationality Act of 1952. With few exceptions, these quotas remained relatively intact until President Johnson signed the Immigration and Nationality Act of 1965, which finally did away with the system of national origin, race, or ancestry quotas for immigration to the United States.[17] More recently, the Immigration Reform and Control Act of 1986 permitted some undocumented aliens to obtain lawful permanent residence, and the Immigration Act of 1990 increased the annual cap on immigration.[18]

The impact of these legislative changes can be seen in the statistics. In 1960, about 5 percent of the foreign-born population were Asian and 9 percent were from Latin America, while almost 75 percent were from Europe. By 2000, a little more than 25 percent of the foreign-born population came from Asia and 51 percent came from Latin America, compared with 15 percent from Europe. (See table 1-1.)

Blacks leave the South. Not all migrations have come from abroad. There have also been large shifts in population within our borders. One that has had far-reaching effects on the Nation was the mass movement of blacks out of the rural South. Between 1910 and 1920, the black population of the North rose by almost 700,000, and by 1930 nearly 1 million blacks had left the South.[19] Some areas in South Chicago went from being predominantly white to predominantly black in a very short period.[20] Poverty, racial segregation, and Jim Crow laws in the South, coupled with a boom in war industries and a decline in immigrant labor from abroad, combined to bring about this population shift.

Not only did blacks move out of the South, they also moved to urban centers. In 1940, for instance, 48 percent of the black population was classified as urban. By 1960, this number had risen to 80 percent.[21] Data from the Current Population Survey indicate that 86 percent of blacks lived in metropolitan areas in 1999, with 55 percent in central cities.[22] This shift of the black population from the relative isolation of the rural South to urban centers in the North and elsewhere turned national attention to problems and tensions that had previously existed mainly in the South.

Counting Minorities

The decennial census. The counting of minorities began virtually at the inception of the Republic. A constitutional requirement established the United States as the first country to provide for "a regular periodic enumeration of its inhabitants."[23] In order to determine each State's share of direct taxes and congressional representation, a nationwide census of the population on a regular basis was established by the United States Constitution:

> Representatives and direct Taxes shall be apportioned among the several States which may be included within this Union, according to their respective Numbers, which shall be determined by adding to the whole Number of free Persons, including those bound to Service for a Term of Years, and excluding Indians not taxed, three fifths of all other Persons. The actual Enumeration shall be made within three Years after

> the first Meeting of the Congress of the United States, and within every subsequent Term of ten Years, in such Manner as they shall by Law direct. (Article 1, Section 2)[24]

Since 1790, when the first decennial census was undertaken, there have been numerous approaches to counting various racial and ethnic groups. (See box on p. 19.) Many of the changes in the census questions coincide roughly with immigration milestones. For instance, in 1850, after the substantial Irish immigration got under way, a question was asked about the country of birth. The census of 1870 specifically counted Chinese just as concerns over Chinese contract labor were arising.

In 1910, a question was added about the native language of individuals ("mother tongue," in the terminology of the day). This was an attempt to identify more clearly the ethnic groups coming to the United States from eastern and southern Europe. Many of these immigrants were coming from the great multiethnic empires of Austria-Hungary, Russia, and Germany, and it was felt that the question on country of origin was simply inadequate, if not altogether misleading, as a means of classifying these new émigrés by origin.[25] Beginning in 1960, Hispanics were identified by the census, and in each following decade, the number and variety of groups that were counted increased.

In most censuses, the enumerators determined the race of respondents. Beginning with the 1970 census, however, the respondents themselves identified their race and ethnicity category. (The 1970 census was also the first to be conducted primarily by mail; prior censuses had relied on personal visits by enumerators.)

At various times, the census has attempted to identify people of what is now termed multiracial ancestry. For instance, in 1850 a category designated "mulatto" was included. In 1870, this was expanded to include the categories of "quadroon" and "octoroon." In 1930, however, the interviewer's instructions did not provide for any mixed-race categories. Instead, people were categorized into a limited number of race and ethnic classifications. Essentially, the rule was that any combination of white and any other racial ancestry was reported as the race of the parent who was not white.[26] Seventy years later, in 2000, the census once again gave respondents the opportunity to be identified as having multiracial ancestry by allowing them to check more than one race category.

In the mid-19th century, questions were added to several censuses to measure a nonrace and nonethnic minority—persons with certain kinds of disabilities. These were the blind, the deaf, the mute, the mentally ill, and the retarded. No further attempt was made to identify persons with disabilities until 1970, when a question was added regarding work disabilities. This question was further refined over the decades until, in 2000, the census attempted to identify persons with physical or mental conditions, or both, that impacted their lives.

The Current Population Survey. The Current Population Survey (CPS) is an ongoing monthly sample survey, conducted for the Bureau of Labor Statistics (BLS) by the U.S. Census Bureau, that collects information on the employment status of persons. BLS uses this information to produce monthly estimates of employment and unemployment.[27] The survey is also the primary intercensal source for demographic and other socio-economic information on the population. Over time, it has become an important source of data on many of the Nation's minority groups.

The origins of the CPS date back to the late 1930s, when initial efforts were made to measure unemployment. Much of the developmental work during this period was done by the Works Progress Administration (WPA). By the early 1940s, the effort had been shifted to the Census Bureau. During the war years, the Census Bureau redesigned the sample and, in 1945, revised the questionnaire.[28]

These early questionnaires collected demographic data on household members similar to that which is collected today. For instance, a CPS questionnaire from June 1946 asked about the respondent's sex, age at last birthday, and "color." Under "color," three entries were allowed: White, Negro, and other. In 1952, this category was renamed "race," although the same information was still collected.

In April 1973, a category labeled "ethnicity" was added, and the interviewer was instructed to indicate a numeric code that corresponded to the ethnic origin that the respondent identified from a flashcard. While "race" was a term used to indicate a division of the population into groups distinguished by physical characteristics, "ethnicity" was a concept

Selected information on personal characteristics collected by decennial census by year	
Year	**Information collected (using terminology of the time)**
1790	Free whites; and slaves
1800	Free whites (except Indians not taxed); and slaves
1810	Free whites (except Indians not taxed); and slaves
1820	Free whites (except Indians not taxed); foreigners not naturalized; free colored persons; and slaves
1830	Free whites; slaves; and free colored
1840	Free whites; slaves; free colored; deaf, dumb, and insane whites; and deaf, dumb, and insane colored
1850	White; black; mulatto; country of birth; deaf, dumb, and insane whites; and deaf, dumb, and insane coloreds
1860	White; black; mulatto; country of birth; number of slaves; deaf, dumb, and insane whites; and deaf, dumb, and insane coloreds
1870	White; black; mulatto; quadroon; octoroon;[1] Chinese; Indian; country of birth; foreign-born parentage; and deaf, dumb, and insane
1880	White; black; mulatto; quadroon; octoroon; Chinese; Indian; country of birth; and country of birth of parents
1890	White; black; mulatto; quadroon; octoroon; Chinese; Japanese; Indian; country of birth; and country of birth of parents
1900	White; black; mulatto; Chinese; Japanese; Indian; country of birth; country of birth of parents; and year of immigration
1910	White; black; mulatto; Chinese; Japanese; Indian; other; country of birth; country of birth of parents; native language; and English fluency
1920	White; black; mulatto; Chinese; Japanese; Indian; other; country of birth; country of birth of parents; native language; native language of parents; and English fluency
1930	White; black; Chinese; Japanese; Indian; Mexican; country of birth; country of birth of parents; native language; and English fluency[2]
1940	White; black; mulatto; Chinese; Japanese; Indian; Filipino; Hindu; Korean; country of birth; citizenship of the foreign-born; and country of birth of parents

[1] According to the 1870 census instructions, "the word 'black' should be used to describe those persons who have three-fourths or more black blood (sic); 'mulatto,' those persons who have from three-eighths to five-eighths black blood (sic); 'quadroon,' those persons who have one-fourth black blood (sic); and 'octoroon,' those persons who have one-eighth or any trace of black blood (sic)."

[2] The 1930 census had specific instructions for reporting race. "A person of mixed white and Negro blood was to be returned as Negro, no matter how small the percentage of Negro blood; someone part Indian and part Negro also was to be listed as Negro unless the Indian blood predominated and the person was generally accepted as an Indian in the community. A person of mixed white and Indian blood was to be returned as an Indian, except where the Indian blood is very small or where he or she was regarded as white in the community."

Selected information on personal characteristics collected by decennial census by year	
Year	**Information collected (using terminology of the time)**
1950	White; Negro; American Indian; Japanese; Chinese; Filipino; Hawaiian; part Hawaiian; Aleut, Eskimo, and so forth; country of birth; and country of birth of parents
1960	White; Negro or Black; Indian (American); Japanese; Chinese; Filipino; Hawaiian; Korean; other; country of birth; parents' place of birth; and Hispanic origin
1970	White; Asian Indian; Black or Negro; Hawaiian; Japanese; Guamanian; Chinese; Samoan; Filipino; Eskimo; Korean; Aleut; Vietnamese; Indian (American); other; Spanish/Hispanic origin or descent (Mexican, Puerto Rican, Cuban, Central or South American, other Spanish, none of these); country of birth; language spoken at home; ancestry; and work disability.
1980	White; Black or Negro; Indian (American); Eskimo; Aleut; Chinese; Japanese; Filipino; Asian Indian; Hawaiian; Samoan; Korean; Guamanian; Vietnamese; other race; Spanish/Hispanic origin (Mexican, Puerto Rican, Cuban, Central or South American, other Spanish, none of these); country of birth; ancestry or ethnic origin; language spoken at home; English fluency; and disability.
1990	White; Black or Negro; Indian (American); Eskimo; Aleut; Chinese; Japanese; Filipino; Asian Indian; Hawaiian; Samoan; Korean; Guamanian; Vietnamese; other Asian and Pacific Islander; other race; Spanish/Hispanic origin; country of birth; ancestry or ethnic origin; language spoken at home; English fluency; and disability.
2000	White; Black or Negro; Indian (American); Eskimo; Aleut; Chinese; Japanese; Filipino; Asian Indian; Hawaiian; Samoan; Korean; Guamanian; Vietnamese; other Asian and Pacific Islander; other race; multiracial; Spanish/Hispanic origin; country of birth; ancestry or ethnic origin; language spoken at home; English fluency; and disability.

that divided the population into groups according to shared cultural, linguistic, or national origin characteristics. Thus, "ethnicity" was a concept that could cut across racial groups. In September 1974, the label was changed from "ethnicity" to "origin." The primary purpose of this question was to identify persons of Hispanic origin.

In January 1979, in response to OMB Directive 15,[29] the race category "other" was disaggregated into three groups: American Indians, Asians, and Pacific Islanders.

Determining an individual's race has always been somewhat problematic. According to the American Anthropological Association, "The concept of race is a social and cultural construction, with no basis in human biology—race can simply not be tested or proven scientifically."[30]

Until the late 1970s (as was the case with the decennial census until 1970), the interviewer determined race. Following are the instructions concerning the determination and coding of race issued in 1961:[31]

> The codes used for race: "W" for white, "Neg." for Negro, and "OT" for Other. Record Mexicans, Puerto Ricans, and other persons of Latin-American descent as white, unless they are definitely of Negro or other nonwhite race.
>
> Enter "Neg." for Negroes and for persons of mixed white and Negro parentage. A person of mixed American Indian, and Negro blood should be entered as "Negro," unless you [the interviewer] know that the Indian blood

very definitely predominated and that he is regarded in the community as an Indian. Enter "OT" for races other than white or Negro, such as Japanese, Chinese, American Indian, Korean, Hindu, Eskimo, etc.

For persons of mixed parentage:
1) Mixture of white and nonwhite races, report race of nonwhite parent
2) Mixture of nonwhite races, report according to the race of the father.
You can usually determine race by observation, but should inquire in the case of servants, hired hands, or other persons unrelated to the household head.

While these instructions provided a systematic way of categorizing individuals by race, the classifications were rather arbitrary and dependent on the enumerator's preconceptions. And in the case of mixed parentage, that is, white and nonwhite or any combination of nonwhites, the classification directions were inconsistent.

Beginning in October 1978, the interviewer was no longer permitted to determine the race of household members by observation. Instead, the interviewer was required to ask the household respondent the race of each household member, presenting the respondent with a flashcard that listed racial categories. The purpose of this change was to provide more accurate estimates of characteristics by race. According to interviewer instructions:[32]

> It is important that you ask the question in all cases even though the respondent's race may seem obvious. Studies have indicated that there is a significant difference in the recording of racial categories between the procedures of asking race as opposed to marking it by observation. What may seem obvious to the observer is in some cases not what the respondent considers himself/herself. Misrecorded cases potentially have a serious impact on the quality of the final CPS data. Also, some households are comprised of persons of different races. The assumption that all household or family members are of the same race as the respondent is not valid.

Like the determination of race, the determination of "origin" was left up to the respondent. He or she was shown a flashcard and asked to pick the appropriate origin or descent. The origin question was asked *in addition* to the race question. According to the interviewer's manual:[33]

> Origin or descent refers to the *national* or *cultural* group from which a person is descended and is determined by the nationality or lineage of a person's ancestors. There is no set rule as to how many generations are to be taken into account in determining origin. A respondent may report origin based on the origin of a parent, grandparent, or some far-removed ancestor.

During the last CPS revision, which began in 1986 and terminated when the current, redesigned survey system and questionnaire were placed in service in 1994, questions having to do with the demographic characteristics of household members were reviewed and revised where appropriate. The questions on race and origin, however, remained virtually unchanged.[34]

Publication of Information on Minority Workers

Late 19th and early 20th century. During this period, data collection methods were crude and limited in scope by today's standards. As a result, studies frequently looked at conditions in limited geographic areas, and the data used were often of an anecdotal nature.

In May 1897, the Department of Labor (the name at the time of the Federal agency that would eventually evolve into today's Bureau of Labor Statistics) published a bulletin entitled "Conditions of the Negro in Various Cities," by George G. Bradford. The study focused on the very high mortality rates of blacks, as well as the characteristics of black families.

In 1898, the Department of Labor published W. E. B. Du Bois' first study on African Americans, "The Negroes of Farm-ville, Virginia." In 1899, the Department published another of Du Bois' works, "The Negro in the Black Belt," which was based on his students' experiences. (Du Bois was a professor of sociology at the University of Atlanta.)

In 1901, three more black studies, two by William Taylor Thom, and the third by Du Bois, were published, and another two were issued the next year (1902). For the next

decade and a half, little was published in the way of minority studies, as what was to become the Bureau of Labor Statistics underwent several reorganizations. Finally, in 1918 (by which time the Bureau of Labor Statistics had become part of a new Department of Labor), publication of studies on blacks resumed. (See box below.)

In the February 1918 edition of the Bureau's *Monthly Review*, a study by Abraham Epstein, entitled "The Negro Migrant in Pittsburgh," appeared. The migration of blacks from the South had begun to put a strain on the communities in the North. This study focused on the increase of blacks within the city of Pittsburgh, with the goal of producing information that would prove useful to other northern cities experiencing significant increases in black population.

In 1920, the *Monthly Labor Review* (the name of the *Monthly Review* was changed to *Monthly Labor Review* in July 1918) published an article examining the effect of black labor in the stove industry. The article argued in favor of the "cordial acceptance" of the black worker within this industry, while describing the black laborer's difficulties. The article further described black people as a part of American society, as legitimate as any other citizens of the country and having the same common needs. (It would appear that the editorial policy for the *Monthly Labor Review* in the early part of the 20th century gave authors a great deal more latitude in expressing opinions or making recommendations regarding social policy than does today's politically- and policy-neutral *Review*.)

Blacks were not the only minority group for which information was presented in the *Monthly Labor Review*. A regular feature in the early years of the *Review* was the publication of national immigration figures. These figures were normally published every 2 months, and this continued until 1920. Interestingly, in June of 1918, there was a focus on Japanese migration for the previous year. A 1920 article looked at the situation in several western States that had seen an increase in the number of Mexican laborers. The Department of Labor had issued orders temporarily admitting Mexicans to alleviate labor shortages within agriculture. As a result, there was a widespread belief among domestic agricultural laborers that they were losing jobs to low-wage Mexican labor. The study found that "in the 25 towns and cities visited...the number of Mexicans displacing white men was negligible" and that "a dire and imperative need was met in making the exceptions and permitting Mexican labor to enter this country on easy terms to meet the abnormal demand for common labor."[1] Because immigration from Europe and elsewhere had practically ceased, the Mexican workers were found to provide an effective alternative to that lost labor source.

The Current Population Survey era. As noted above, the CPS is an extremely rich source of

Division of Negro Economics

World War I had brought a great many blacks to the cities, particularly in the North, to fill labor needs. In 1921, a *Monthly Labor Review* article examined a division of the Department of Labor that devoted itself to the results of this migration, and the situations it created. The Division of Negro Economics was responsible for looking into the problems that resulted when large groups of black workers sought jobs in northern defense plants.[1] The Division's director was Dr. George E. Haynes and, under his direction, 11 State committees and about 225 local county and city committees, with a membership numbering more than 1,000, were appointed. The work of these committees was to promote a national campaign "to create good feeling between the races, and to have both white and Negro citizens understand and cooperate with the purpose and plans of the department."[2] The division published an indepth report on the industrial experiences of blacks during and after World War I that included an investigation into race troubles in Chicago. This division contributed to normalizing race relations during the early 20th century. It was the first of its kind to attempt such work, and was the forerunner of later Federal programs to promote black equality.

[1] See U.S. Department of Labor, 2000.
[2] See "Industrial Relations," 1921, p.140.

demographic information for a wide variety of topics, including the labor force. It is not feasible, therefore, to present an exhaustive account of all published data from the CPS dealing with minorities here. This section will attempt merely to highlight some milestones in the publication of labor force data for minorities.

Labor force data by race from the CPS were first published in 1950 (the data were for 1949).[36] The estimates, which reported the "color" of workers, were expressed in percentages, not numbers, because the population controls needed to produce estimates of levels by race had not yet been developed. In January 1953, population controls based on the 1950 decennial census were introduced into the CPS estimation process and, later in the year (September), the process was further improved so that estimates by race could be produced. In 1955, employment levels for whites and nonwhites were first published.[37] (It should be noted that such data are available back to 1954.[38])

At first, data on race were published only for whites and a catchall group called nonwhites. For years, the nonwhite group was used to represent blacks because the overwhelming majority of nonwhites in the United States were blacks (92 percent in 1960 and 89 percent in 1970.) By 1980, however, blacks as a proportion of the total nonwhite group had shrunk to 84 percent. Thus, the nonwhite category had only limited value in analyzing changes in labor force activity either among blacks or among the other race groups, including Asians, Pacific Islanders, and American Indians. These other groups tended to have significantly different labor force characteristics than did blacks. Thus, in 1983 BLS began to publish data for blacks only. Black-only data also were computed for many series going back to 1972. For historical continuity, however, the Bureau continued to publish some basic series for the group now called "black and other."[39]

Interestingly, while the official change to the publication of black-only data came in 1983, there are examples of data for blacks being published almost a decade earlier. In the April 1974 issue of the BLS publication *Employment and Earnings*, Negro-only data were referred to for the first time in the "Concepts" section of the Technical Note.[40] The same publication contained a table with quarterly data for blacks only and for Hispanics.[41] However, data for the combined "black and other" group continued to appear in the Department of Labor's monthly *Employment Situation* press release until the issuance of January 1982 data. That was when 1980 census population controls were incorporated into the CPS estimation procedures and data for blacks only and for Hispanics first appeared as a regular part of the monthly press release.[42] Monthly data for blacks only did not appear in *Employment and Earnings* for another year, until the January 1983 estimates were published.[43] Monthly data for the "black and other" group also continued to be published in *Employment and Earnings* for about another decade.

Current Data on Minority Workers

Over time, the scope and variety of data published by BLS for black and Hispanic workers have increased enormously. This section presents an overview of these data and some of the major findings. It is intended to illustrate the range of information available, rather than being a comprehensive analysis of the status of minorities.

Labor force participation rates. In 2000, there was little difference among labor force participation rates for blacks (65.8 percent), Hispanics (68.6), and whites (67.4 percent). However, there were sizable differences among these groups when the rates by gender were compared. (See table 1-2.)

Labor force participation rates for black men (69.0 percent) continued to be lower than those for Hispanic or white men (80.6 percent and 75.4 percent, respectively). This same pattern of differences (Hispanic and white men as more likely than black men to be in the labor force) was true for every age group as well. Among women, labor force participation rates were higher for black women (63.2 percent) than for their Hispanic (56.9 percent) or white (59.8 percent) counterparts. For each age category except teenagers, Hispanic women's participation rates were lower than those of the other two groups.

The overall participation rate for blacks has grown from 60.2 percent in 1973 to nearly 66 percent in recent years.[44] (See table 1-3.) This growth has been solely due to the increased participation of black women in the labor force: for black women, participation rates rose by nearly 14 percentage points, to 63.2 percent, from 1973 to 2000, while rates

for black men fell by 4.4 percentage points. The pattern of change was similar among whites but, among Hispanics, men's participation rates did not decline as much as those of black or white men.

Unemployment. From 1992 to 2000, jobless rates have declined dramatically for the major race and ethnic groups, with the decline for blacks being greater than those for the other two groups. For blacks, the rate dropped 6.6 percentage points, while that for Hispanics fell by 5.9 points, and that for whites declined by 3.1 points. (See table 1-4.) The decrease in unemployment among blacks may partly reflect gains for both men and women in the proportions with schooling beyond high school:

Percent of the labor force 25 years and older with more than a high school diploma

	1992	2000
Black:		
Men	39.9	49.2
Women	44.6	54.2
Hispanic:		
Men	29.4	30.9
Women	34.7	38.0
White:		
Men	52.7	57.8
Women	52.6	60.0

Yet, despite the impbrovements in the unemployment rates for blacks and Hispanics, blacks continue to be a little more than twice as likely as whites to be unemployed, while Hispanics are not quite 2 times as likely as whites to be unemployed.

Education and occupation. Education is an important predictor of labor market outcomes. The more educated the worker, the more likely he or she is to be in the labor force, and the less likely to be unemployed. Moreover, when those with more education are employed, they are much more likely to work in a high-paying managerial or professional occupation.

Although whites continue to have more education than do either blacks or Hispanics, black women and men have made remarkable educational progress in recent years. As the text table above shows, close to 40 percent of black men and 45 percent of black women in the labor force had at least some education beyond the high school level in 1992. By 2000, these proportions had grown to about 49 percent and 54 percent, respectively.

Because education level is an important factor in the occupational self-selection of workers, it is not surprising that the occupational distributions of blacks, Hispanics, and whites vary greatly. For instance, table 1-5 shows that white men are far more likely to be managers or professionals (29.2 percent) than are black or Hispanic men (18.5 percent and 11.4 percent, respectively). Among women, 24.8 percent of blacks and 17.8 percent of Hispanics are managers or professionals, compared with 33.4 percent of whites.

Earnings. Education and occupation, of course, impact earnings. Among full-time wage and salary workers, the median weekly earnings of blacks ($468) and Hispanics ($396) were much lower than those of whites ($591). For both blacks and Hispanics, the earnings gap is more pronounced among men than among women—the median for black men was 75.2 percent of that of white men and that of Hispanic men was 61.9 percent of that of their white counterparts. Among women, blacks earned 85.8 percent of what white women earned, while Hispanics earned 72.8 percent. (See table 1-6.)

Since 1986, the earnings gap between black and white men has actually closed slightly. However, the gap between the earnings of the other minority groups (black women and Hispanics) and those of their white counterparts has grown.

Among workers paid hourly rates, there was very little difference among whites, blacks, and Hispanics in the proportions who worked for a wage at or below the prevailing Federal minimum wage ($5.15 per hour) in 2000. Only about 3.2 percent of Hispanic hourly paid workers earned the minimum or less, as did 3.6 percent of blacks and 3.8 percent of whites.

Labor force projections, 1998-2008.[45] With the exception of profound social and cultural changes such as those that led to the surge of women into the labor force in the 1970s and early 1980s, population growth is the main engine behind labor force growth. The civilian noninstitutional population will continue to increase over the 1998-2008 period, at roughly the same rate as during the previous 10 years. Numbers of Asians (and others) and Hispanics are projected to continue to grow much faster than those of whites or blacks. One of the major factors underlying the growth in the Hispanic and Asian populations in recent years has been the massive migration to the United

States that started in the 1970s and continues today. And, while immigration is expected to decrease slightly between 1998 and 2008, projected net immigration will remain a sizable proportion of population growth over the 1998-2008 projection period.

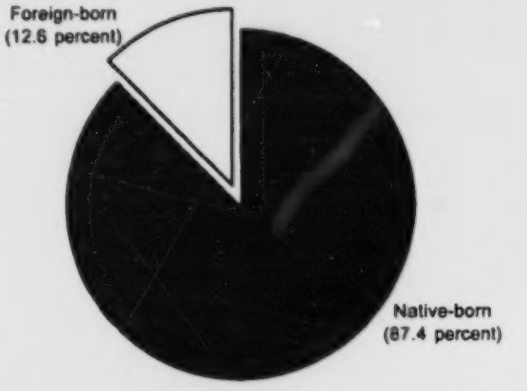
All of the race and ethnic groups in the labor force are projected to continue to grow between 1998 and 2008, but somewhat more slowly than over the preceding 10 years. Of the four race and ethnic groups shown in table 1-7, the "Asian and other" labor force is projected to increase the most rapidly, followed by Hispanics, and then blacks. As a result, by 2008 the Hispanic labor force is projected to overtake the black labor force in size. (The Asian labor force is less than half the size of either the black or the Hispanic labor force.) For all three groups, much of the change in labor force size is due to population growth, which, for Hispanics and Asians, will result from continued immigration.

Despite gains in the numbers in the labor force, relatively little change is anticipated in labor force participation rates overall during the 1998-2008 period (barring, of course, major secular or cyclical changes, or both.) Indeed, as table 1-8 shows, the labor force participation rates for Hispanics and Asians are projected to remain virtually unchanged between 1998 and 2008. In contrast, the participation rate for blacks is expected to grow by 0.7 percentage point, and that for whites, by 0.6 percentage point.

Immigrants. Foreign-born[4] workers make up nearly 13 percent of the U.S. workforce. (See chart 1-1.) The labor force participation rates of the foreign-born, overall, are generally lower than those of their native-born counterparts, largely because foreign-born women are less likely to be in the labor force than are native-born women. (See table 1-9.)

The labor force participation rates of the foreign-born also vary by race and ethnicity. Among non-Hispanic whites, the foreign-born generally have lower participation rates than did natives, while, among non-Hispanic blacks and Hispanics, the foreign-born are more likely to be in the labor force than are their native counterparts. The participation rates of non-Hispanic foreign-born Asians are about the same as those of their native-born counterparts.

Chart 1-1. Native-born and foreign-born shares of U.S. labor force, 2000 annual averages



The Consumer Expenditure Survey

The data shown in this section are derived from the results of the Consumer Expenditure (CE) Surveys of 1994 (Hispanic comparison only) and 1999. The data collected are the most detailed source of consumer expenditures by demographic characteristic (age, income, and so forth) compiled by the Federal Government. The survey consists of two components: A quarterly Interview and a biweekly Diary. Participants in the Interview survey are asked to recall expenditures on a variety of items for the 3 months prior to the interview. Participants in the Diary survey are given a diary in which to fill out all their expenditures for a specified week. This diary is retrieved and replaced by a fresh one for the second consecutive (and final) week of participation. The samples for each survey are independently selected, so that no family is chosen to participate in both surveys.

Characteristics of the consumer unit are based on those reported for the reference person. [1] These include race and ethnicity. For race, the reference person may be reported to be white; black; American Indian, Aleut, or Eskimo; Asian or Pacific Islander; or of an other race. As for ethnicity, the reference person may be described as a member of one of several European ethnicities (English, Irish, French, German, and so on); as African-American; as one of several Hispanic ethnicities; or as a member of an "other" ethnic group. Hispanic ethnicities for which data are collected are: Mexican; Mexican-American; Chicano; Puerto Rican; Cuban; Central or South American; and other Spanish.

[1] The reference person is the first member mentioned by the respondent when asked to "start with the name of the person or one of the persons who owns or rents the home." It is with respect to this person that the relationship of other consumer unit members is determined.

Foreign-born workers are about as likely to be unemployed as are the native-born. (See table 1-10.) Among the major race and ethnic groups, the unemployment rate among foreign-born non-Hispanic whites is about the same as that of their native-born counterparts. The jobless rates among foreign-born Asians (non-Hispanic), blacks (non-Hispanic), and Hispanics are lower than, or about the same as, the rates for their native-born counterparts.

Given the poorer educational backgrounds of many immigrants, it is not surprising that foreign-born workers were more likely than the native-born to be in occupations typified by low earnings. (See table 1-11.) In 2000, about 19 percent of the foreign-born were employed in service occupations, and the same proportion worked as operators, fabricators, and laborers. The proportion of native-born workers employed in each of these two categories was 13 percent. In contrast, the foreign-born were substantially less likely to be employed in high-paying occupations, such as managerial and professional specialty occupations, than were the native-born (23 percent versus 31 percent, respectively). Not surprisingly, therefore, the median weekly earnings of foreign-born full-time wage and salary workers were $447, or 76 percent of the $591 that native-born workers earned weekly in 2000. The median earnings of foreign-born women were about 81 percent those of their native-born counterparts, while the median for foreign-born men was 71 percent of that of their native-born counterparts. (See table 1-12.)

How minorities spend their money. Expenditure amounts are dependent on income and, to a degree, on household size (Hispanic consumer units have, on average, more members than do black ones). Consequently, differences in expenditure patterns across demographic groups may be clearer if the expenditures are expressed in percentages of the total, rather than dollar amounts. (See box above for a description of the expenditure data source, the Consumer Expenditure Survey.)

Comparisons by race and Hispanic origin. There are some similarities between black and nonblack consumer units. For example, each has about the same family size, on average.

(Black consumer units have more children, but fewer persons over age 65.) They also have comparable numbers of earners. However, there are many differences. For example, reported income before taxes[47] is much lower for black families ($30,427) than for nonblack families ($45,688). Also, fewer than one-half of black consumer units reside in an "owned dwelling," compared with more than two-thirds of nonblack ones. Blacks are about 3 years younger, on average, than are nonblacks; have fewer vehicles, on average; and are less likely to have attended college. Given these differences, it is not surprising to see differences in expenditure patterns for these groups. (See tables 1-13 and 1-14.)

Blacks allocate a larger share of total expenditures (10 percent) to food at home than do nonblacks (8 percent). It is likely that this difference reflects the fact that food needs for black and nonblack consumer units are similar, but that the income for blacks is lower, on average. However, each group spends about the same share (between 5 and 6 percent) on food away from home.

Data for housing are more challenging to analyze. As noted, black consumer units are much more likely to be renters than are nonblack consumer units. Also, many renters have utilities included in their rents. Therefore, com-paring actual expenditure levels for shelter components is not appropriate. To adjust for this, expenditures for owned dwellings; rented dwellings; and utilities, fuels, and public services can be summed together into "basic housing." When the summed expenditures are examined, it is found that black consumers allocate a larger share to housing (29 percent) than do nonblack consumers (25 percent).

Blacks also spend larger shares on apparel and services. However, shares for transportation are nearly identical for consumers of all races (19 percent). Black consumers allocate smaller shares for healthcare and entertainment.

Another measure of the status of different groups in the economy is their overall purchasing power—that is, the percentage of total expenditures in the entire economy accounted for by each of the different groups. These percentages are called "aggregate expenditure shares."

As seen in table 1-14, blacks accounted for 12 percent of all consumer units in 1999, but for only 9 percent of total annual expenditures. This difference, of course, is due largely to the fact that black income is lower, on average, than nonblack income. Thus, the gap between the proportion of the population and the proportion of total consumption becomes another means of measuring the relative well-being of the different groups. It is particularly interesting to note that this measure can indicate relative well-being in certain specific areas of consumption. For instance, black consumers account for 10 percent of total food-at-home expenditures and 7 percent of home-owner expenses. In contrast, they account for 16 percent of renter expenses, largely due to their disproportionate status as renters. Overall though, they account for less than 10 percent of total shelter spending.[48]

Like blacks compared with nonblacks, Hispanics report less income, on average, than do non-Hispanics. (See table 1-15.) Hispanic consumer units allocate a larger share of total expenditures to food at home (11 percent) than do other units (8 percent), but this could be a function of family size as well as income. They allocate a slightly higher share to shelter and utilities (27 percent) than do non-Hispanics (25 percent), and the same is true for apparel and services (6.3 percent compared with 4.6 percent) and transportation (21 percent compared with 19 percent). However, they allocate smaller shares to healthcare and entertainment.

Aggregate expenditure shares are important for Hispanics for two reasons. First, they show how Hispanics fare compared with non-Hispanics currently (1999). (See table 1-16.) In 1999, Hispanics accounted for 8.4 percent of all consumer units. However, they accounted for only 7.5 percent of all consumer expenditures. They accounted for 10 percent of all food-at-home expenditures, and 8 percent of shelter expenditures. Like blacks, they account for a smaller share (6 percent) of owned dwelling expenditures and a much larger share of spending for rented dwellings (14 percent). They account for 10 percent of expenditures for apparel and services, perhaps because of their larger family sizes and larger number of children, but for only 4.8 percent of expenditures for healthcare and 5.5 percent of those for entertainment.

Second, Hispanics have been a growing segment of the population, and their share of total expenditures has grown too. (See table 1-17.) Accounting for fewer than 8 million consumer units in 1994, they numbered more than 9 million consumer units in 1999, an

increase of about 18 percent. In the same period, their share of aggregate expenditures rose from 6.3 percent to 7.5 percent.

Counting Minorities: New Directions

Early results of Census 2000 clearly show that the U.S. population is very diverse racially and ethnically. (See box on p. 29.) Additionally, legislation such as the Americans with Disabilities Act (ADA) has brought other kinds of minority groups to public attention. Consequently, the Federal Government is endeavoring to improve its ability to collect data that will reflect the diversity of the population more accurately.

In 1977, the U.S. Office of Management and Budget (OMB) issued standards for the reporting of statistical information on race and ethnicity by Federal agencies. Commonly referred to as "Directive No. 15," these standards provided the first consistent method for reporting race and ethnicity in the Federal Government. The standards required the collection of Hispanic data separately from race and, at a minimum, the collection of data on four racial categories—White; Black; American Indian, Eskimo, or Aleut; and Asian or Pacific Islander.

Beginning in the late 1980s, the standards came under criticism from those who believed that the minimum categories set forth in Directive No. 15 did not reflect the increasing diversity of our Nation's population that has resulted primarily from growth in immigration and in interracial marriages. In response to these criticisms, OMB announced in July 1993 that it would undertake a comprehensive review of the categories for data on race and ethnicity.

This review, conducted over a 4-year period, was done in collaboration with the Interagency Committee for the Review of the Racial and Ethnic Standards, which OMB established in March 1994 to facilitate the participation of Federal agencies in the review. The Committee, through its Research Working Group, carried out a research program to evaluate various proposals for revising the standards. This extensive research effort, including three national tests, examined alternative approaches for questions to collect data on race and ethnicity. The Committee recommended changes in the standards based on the research results, as well as on the consideration of related public comments and testimony.

OMB adopted many of the changes to the standards recommended by the Committee in its new standards released on October 30, 1997, including the following:

1. A two-question format for the collection of data on race and ethnicity should be used in all cases involving self-identification, and the ethnicity question should precede the race question.
2. Individuals should be allowed to select more than one of the racial categories to identify their racial background.
3. The terms Eskimo and Aleut should be replaced by the term "Alaska Native."
4. Central and South American Indians should now be classified as American Indians.
5. The name of the "Black" category should be changed to "Black or African American."

In addition, OMB decided that the "Asian or Pacific Islander" category should be split into two categories—"Asian" and "Native Hawaiian or Other Pacific Islander." OMB also changed the term used to refer to Hispanics from "Hispanic" to "Hispanic or Latino."

In order to comply with the new standards in the Current Population Survey (CPS), BLS and the Census Bureau conducted research to determine the race and ethnicity questions that meet the requirements of the standards and provide the most reliable and valid data. This research included a supplement to the CPS administered in July 2000. The race and ethnicity questions selected for use in the supplement were the following:

A. Are you Hispanic, Latino, or Spanish?
(1) Yes
(2) No

If the respondent answered yes, then the interviewer asks for the name of the country of origin.

B. Please select one or more of the following categories to describe your race.
(1) White
(2) Black, African American, or Negro
(3) American Indian or Alaska Native
(4) Asian
(5) Native Hawaiian or Other Pacific Islander

Census 2000

The 2000 Decennial Census contained questions on race and ethnicity similar to the ones being proposed for inclusion in the CPS. Respondents were thus able to report according to the revised race and ethnic guidelines from OMB. The results were released in early 2001. The population's race and ethnic profile at the time of the census (April 2000) is shown below:

	Percent
Total	100.0
One race	97.6
White	75.1
Black	12.3
American Indian or Alaskan Native	.9
Asian	3.6
Native Hawaiian or Pacific Islander	.1
Other	5.5
Two or more races	2.4
Hispanic origin[1]	12.5

[1] Hispanics can be of any race.

SOURCE: "Overview of Race and Hispanic Origin," Census 2000 Brief (Census Bureau, March 2001).

If the respondent indicates that his or her race is "other" (a category not shown to the respondent), he or she was asked for more-specific information.

Once the results of this test are analyzed and the new questions finalized, a new methodology for determining race and ethnicity will be implemented in the CPS in 2003.

With regard to the measurement of persons with disabilities, BLS, along with the Department of Labor's Presidential Task Force on the Employment of Adults with Disabilities, is leading a multi-agency effort to design a short set of questions for use in a household survey (the CPS) that would identify persons with disabilities. This effort was mandated in 1998 by Executive Order 13078, which directed BLS to develop a statistically reliable method of determining the employment rate of adults with disabilities.

Work on the project began in 1999 with a careful examination of all the major disability survey instruments. The exhaustive review of these instruments revealed serious problems with the question sets that were used. Consequently, BLS had to conduct further research and testing of individual disability questions found in various surveys to try to construct a minimum set of questions needed to identify people with disabilities.

The set of questions identified in this phase was then placed in a major, nationwide survey (the National Comorbidity Survey—or NCS) for testing in a live household survey environment. Because the NCS focuses on disability issues, particularly mental illness, a rigorous comparison of the results from the test questions with those from the regular NCS questions will reveal how well (or poorly) the test questions identify persons with disabilities, and how the questions might be improved.

Conclusion

The race and ethnic mix of the Nation's population has diversified considerably since colonial times, as shown in table 1-18. The ways in which minorities have been counted, first in the decennial censuses and then in the CPS, have evolved over time, reflecting, in part, a need for data to describe this growing diversity. The waves of immigrants from different parts of the world obviously have spurred the development of questions in the census asking about country of origin. The migration of blacks from the South focused national attention on the problems of blacks and created a demand for more data.

It took time, of course, for this demand to be met. Statistical theory, survey meth-

odologies, and automated data processing technologies needed to be developed and refined.

The classification methodology for race has changed. At first, it was assumed that census enumerators and CPS interviewers could distinguish racial groups simply by observation and community standards. As researchers began to realize that race was much more complex than a set of physical attributes, interviewers were instructed to ask respondents about their race. The situation has now evolved to the point that respondents can choose to identify themselves with more than one racial group, thus creating a new category—multiracial.

What does the future hold? Probably more of the same. Barring a return to the exclusionary immigration policies of the 1920s, the United States likely will continue to be a nation in which increasing racial and ethnic diversity is the rule, not the exception. As in the past, people of diverse backgrounds will continue to contribute to a common culture, while maintaining many elements of their own cultural identities that help link them to their origins. As researchers, policymakers, and the public try to understand this process and deal with some of the problems that will inevitably arise (if past history is any indication), there will be continuing demands to develop and refine statistical measures that better illuminate the changing race and ethnic characteristics of America's population.

Table 1-1. Geographic area of birth of the foreign-born population in the United States, 1850 to 2000

Geographic Area	Year													
	1850	1860	1870	1880	1890	1900	1910	1920	1930	1960[1]	1970[1]	1980[1]	1990[1]	2000[2]
Total foreign born (in thousands)	2,244.6	4,138.7	5,567.2	6,679.9	9,249.5	10,341.3	13,515.9	13,920.7	14,204.1	9,738.1	9,619.3	14,079.9	19,767.3	28,379.0
Percent distribution														
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Europe	90.5	92.0	88.8	86.1	86.8	85.9	87.4	85.6	83.0	74.5	59.7	36.6	22.0	15.3
Northern and Western	90.1	91.2	87.0	82.3	78.8	69.7	54.1	44.8	41.2	34.2	27.3	16.9	10.4	–
Ireland	42.8	38.9	33.3	27.8	20.2	15.6	10.0	7.5	5.2	3.5	2.6	1.4	.9	–
Southern and Eastern	.4	.8	1.7	3.7	7.9	16.2	33.3	40.7	41.7	40.1	32.1	19.5	11.6	–
Asia	.1	.9	1.2	1.6	1.2	1.2	1.4	1.7	1.9	5.0	8.6	18.0	25.2	25.5
China	[3]	.9	1.1	1.6	1.2	.8	.4	.3	.3	1.0	1.8	2.0	2.7	–
Latin America	.9	.9	1.0	1.3	1.2	1.3	2.1	4.2	5.6	9.3	18.8	31.1	42.5	51.0
Mexico	.6	.7	.8	1.0	.8	1.0	1.6	3.5	4.5	5.9	7.9	15.6	21.7	–
Other	8.5	6.2	9.0	10.9	10.8	11.6	9.1	8.5	9.5	11.1	13.0	14.3	10.3	8.1

[1] Indicates sample data.
[2] Annual average data from the Current Population Survey.
[3] Indicates less than 0.05 percent.

NOTE: Dash indicates data not available.

SOURCE: U.S. Census Bureau.

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Table 1-2. **Labor force status of the population by age, sex, race, and Hispanic origin, annual averages, 2000**

(Numbers in thousands)

Age and sex	Black			Hispanic origin			White		
	Population	Labor force	Labor force as a percent of population	Population	Labor force	Labor force as a percent of population	Population	Labor force	Labor force as a percent of population
TOTAL									
Total, 16 years and older	25,218	16,603	65.8	22,393	15,368	68.6	174,428	117,574	67.4
16 to 19 years	2,468	967	39.2	2,341	1,083	46.3	12,707	7,075	55.7
20 to 24 years	2,690	1,932	71.8	2,775	2,155	77.7	6,312	2,800	44.4
25 to 54 years	14,931	12,155	81.4	13,667	10,928	80.0	97,730	82,796	84.7
55 to 64 years	2,351	1,227	52.2	1,819	983	54.1	20,324	12,192	60.0
65 years and older	2,778	322	11.6	1,791	218	12.2	28,947	3,749	13.0
Men									
Total, 16 years and older	11,320	7,816	69.0	11,064	8,919	80.6	84,647	63,861	75.4
16 to 19 years	1,213	473	39.0	1,205	613	50.9	6,496	3,679	56.6
20 to 24 years	1,235	906	73.4	1,457	1,299	89.2	7,420	6,308	85.0
25 to 54 years	6,753	5,699	84.4	6,817	6,295	92.3	48,529	44,984	92.7
55 to 64 years	1,015	580	57.1	826	573	69.4	9,811	6,692	68.2
65 years and older	1,105	157	14.2	759	138	18.2	12,390	2,198	17.7
Women									
Total, 16 years and older	13,898	8,787	63.2	11,329	6,449	56.9	89,781	53,714	59.8
16 to 19 years	1,255	494	39.4	1,136	470	41.4	6,211	3,396	54.7
20 to 24 years	1,455	1,026	70.5	1,319	856	64.9	7,300	5,455	74.7
25 to 54 years	8,178	6,455	78.9	6,849	4,633	67.7	49,200	37,813	76.9
55 to 64 years	1,336	647	48.4	993	410	41.3	10,513	5,500	52.3
65 years and older	1,673	165	9.9	1,032	80	7.7	16,557	1,550	9.4

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 1-3. **Labor force participation rates by sex, race, and Hispanic origin, annual averages, 1973-2000**

Year	Black			Hispanic origin			White		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
1973	60.2	73.4	49.3	60.2	81.5	41.0	60.8	79.4	44.1
1974	59.8	72.9	49.0	61.1	81.7	42.4	61.4	79.4	45.2
1975	58.8	70.9	48.8	60.8	80.7	43.2	61.5	78.7	45.9
1976	59.0	70.0	49.8	60.8	79.6	44.3	61.8	78.4	46.9
1977	59.8	70.6	50.8	61.6	80.9	44.3	62.5	78.5	48.0
1978	61.5	71.5	53.1	62.9	81.1	46.6	63.3	78.6	49.4
1979	61.4	71.3	53.1	63.6	81.3	47.4	63.9	78.6	50.5
1980	61.0	70.3	53.1	64.0	81.4	47.4	64.1	78.2	51.2
1981	60.8	70.0	53.5	64.1	80.6	48.3	64.3	77.9	51.9
1982	61.0	70.1	53.7	63.6	79.7	48.1	64.3	77.4	52.4
1983	61.5	70.6	54.2	63.8	80.3	47.7	64.3	77.1	52.7
1984	62.2	70.8	55.2	64.9	80.6	49.7	64.6	77.1	53.3
1985	62.9	70.8	56.5	64.6	80.4	49.3	65.0	77.0	54.1
1986	63.3	71.2	56.9	65.4	81.0	50.1	65.5	76.9	55.0
1987	63.8	71.1	58.0	66.4	81.0	52.0	65.8	76.8	55.7
1988	63.8	71.0	58.0	67.4	81.9	53.2	66.2	76.9	56.4
1989	64.2	71.0	58.7	67.6	82.0	53.5	66.7	77.1	57.2
1990	64.0	71.0	58.3	67.4	81.4	53.1	66.9	77.1	57.4
1991	63.3	70.4	57.5	66.5	80.3	52.3	66.6	76.5	57.4
1992	63.9	70.7	58.5	66.8	80.7	52.8	66.8	76.5	57.7
1993	63.2	69.6	57.9	66.2	80.2	52.1	66.8	76.2	58.0
1994	63.4	69.1	58.7	66.1	79.2	52.9	67.1	75.9	58.9
1995	63.7	69.0	59.5	65.8	79.1	52.6	67.1	75.7	59.0
1996	64.1	68.7	60.4	66.5	79.6	53.4	67.2	75.8	59.1
1997	64.7	68.3	61.7	67.9	80.1	55.1	67.5	75.9	59.5
1998	65.6	69.0	62.8	67.9	79.8	55.6	67.3	75.6	59.4
1999	65.8	68.7	63.5	67.7	79.8	55.9	67.3	75.6	59.6
2000	65.8	69.0	63.2	68.6	80.6	56.9	67.4	75.4	59.8

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 1-4. **Unemployment rates by sex, race, and Hispanic origin, annual averages, 1973-2000**

Year	Black			Hispanic origin			White		
	Total	Male	Female	Total	Male	Female	Total	Male	Female
1973	9.4	8.0	11.1	7.5	6.7	9.0	4.3	3.8	5.3
1974	10.5	9.8	11.3	8.1	7.3	9.4	5.0	4.4	6.1
1975	14.8	14.8	14.8	12.2	11.4	13.5	7.8	7.2	8.6
1976	14.0	13.7	14.3	11.5	10.8	12.7	7.0	6.4	7.9
1977	14.0	13.3	14.9	10.1	9.0	11.9	6.2	5.5	7.3
1978	12.8	11.8	13.8	9.1	7.7	11.3	5.2	4.6	6.2
1979	12.3	11.4	13.3	8.3	7.0	10.3	5.1	4.5	5.9
1980	14.3	14.5	14.0	10.1	9.7	10.7	6.3	6.1	6.5
1981	15.6	15.7	15.6	10.4	10.2	10.8	6.7	6.5	6.9
1982	18.9	20.1	17.6	13.8	13.6	14.1	8.6	8.8	8.3
1983	19.5	20.3	18.6	13.7	13.6	13.8	8.4	8.8	7.9
1984	15.9	16.4	15.4	10.7	10.5	11.1	6.5	6.4	6.5
1985	15.1	15.3	14.9	10.5	10.2	11.0	6.2	6.1	6.4
1986	14.5	14.8	14.2	10.6	10.5	10.8	6.0	6.0	6.1
1987	13.0	12.7	13.2	8.8	8.7	8.9	5.3	5.4	5.2
1988	11.7	11.7	11.7	8.2	8.1	8.3	4.7	4.7	4.7
1989	11.4	11.5	11.4	8.0	7.6	8.8	4.5	4.5	4.5
1990	11.4	11.9	10.9	8.2	8.0	8.4	4.8	4.9	4.7
1991	12.5	13.0	12.0	10.0	10.3	9.6	6.1	6.5	5.6
1992	14.2	15.2	13.2	11.6	11.7	11.4	6.6	7.0	6.1
1993	13.0	13.8	12.1	10.8	10.6	11.0	6.1	6.3	5.7
1994	11.5	12.0	11.0	9.9	9.4	10.7	5.3	5.4	5.2
1995	10.4	10.6	10.2	9.3	8.8	10.0	4.9	4.9	4.8
1996	10.5	11.1	10.0	8.9	7.9	10.2	4.7	4.7	4.7
1997	10.0	10.2	9.9	7.7	7.0	8.9	4.2	4.2	4.2
1998	8.9	8.9	9.0	7.2	6.4	8.2	3.9	3.9	3.9
1999	8.0	8.2	7.8	6.4	5.6	7.6	3.7	3.6	3.8
2000	7.6	8.1	7.2	5.7	4.9	6.7	3.5	3.4	3.6

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 1-5. **Employed persons by occupation, race, Hispanic origin, and sex, annual averages, 2000**

(Percent distribution)

Occupation	Black			Hispanic			White		
	Total	Men	Women	Total	Men	Women	Total	Men	Women
Total, 16 years and older (thousands)	15,334	7,180	8,154	14,492	8,478	6,014	113,475	61,696	51,780
Percent	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Managerial and professional specialty	21.8	18.5	24.8	14.0	11.4	17.8	31.1	29.2	33.4
Executive, administrative, and managerial	9.9	8.9	10.7	7.4	6.3	8.9	15.3	15.8	14.8
Professional specialty	12.0	9.6	14.1	6.7	5.1	8.9	15.8	13.4	18.6
Technical, sales, and administrative support	29.3	18.8	38.6	24.2	14.9	37.2	29.2	19.7	40.5
Technicians and related support	3.2	2.6	3.7	2.1	1.7	2.7	3.2	2.9	3.5
Sales occupations	9.4	7.6	10.9	9.6	7.8	12.1	12.5	11.9	13.2
Administrative support, including clerical	16.8	8.5	24.0	12.5	5.5	22.5	13.5	5.0	23.7
Service occupations	21.5	17.4	25.2	19.8	15.2	26.2	12.4	9.1	16.4
Private household	.8	(1)	1.4	1.7	.1	3.0	.6	(1)	1.2
Protective service	3.1	4.7	1.6	1.4	2.0	.6	1.6	2.5	.6
Service, except private household and protective	17.7	12.6	22.1	16.6	13.1	21.6	10.2	6.5	14.6
Precision production, craft, and repair	7.8	14.2	2.1	14.3	22.2	3.3	11.6	19.5	2.1
Operators, fabricators, and laborers	18.5	29.0	9.1	22.1	28.1	13.6	12.9	18.4	6.4
Machine operators, assemblers, and inspectors	7.0	8.8	5.5	9.8	9.8	9.7	5.1	6.1	3.9
Transportation and material moving occupations	6.0	11.1	1.4	4.6	7.4	.6	3.9	6.6	.8
Handlers, equipment cleaners, helpers, and laborers	5.4	9.1	2.2	7.8	11.0	3.3	3.9	5.8	1.6
Farming, forestry, and fishing	1.1	2.1	.2	5.6	8.2	1.8	2.8	4.0	1.3

[1] Indicates less than 0.05 percent.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 1-6. **Median usual weekly earnings[1] of full-time[2] wage and salary workers,[3] by sex, race, and Hispanic origin, annual averages, 1986-2000**

Characteristic	Year														
	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Black															
Both sexes	$291	$301	$314	$319	$329	$348	$357	$369	$371	$383	$387	$400	$426	$445	$468
Men	318	326	347	348	361	375	380	392	400	411	412	432	468	488	503
Women	263	275	288	301	308	323	335	348	346	355	362	375	400	409	429
Hispanic origin															
Both sexes	277	284	290	298	304	312	322	331	324	329	339	351	370	385	396
Men	299	306	307	315	318	323	339	346	343	350	356	371	390	406	414
Women	241	251	260	269	278	292	302	313	305	305	316	318	337	348	364
White															
Both sexes	370	383	394	409	424	442	458	475	484	494	506	519	545	573	591
Men	433	450	465	482	494	506	514	524	547	566	580	595	615	638	669
Women	294	307	318	334	353	373	387	401	408	415	428	444	468	483	500
EARNINGS RATIOS															
Black to white	78.6	78.6	79.7	78.0	77.6	78.7	77.9	77.7	76.7	77.5	76.5	77.1	78.2	77.7	79.2
Black men to white men	73.4	72.4	74.6	72.2	73.1	74.1	73.9	74.8	73.1	72.6	71.0	72.6	76.1	76.5	75.2
Black women to white women	89.5	89.6	90.6	90.1	87.3	86.6	86.6	86.8	84.8	85.5	84.6	84.5	85.5	84.7	85.8
Hispanic to white	74.9	74.2	73.6	72.9	71.7	70.6	70.3	69.7	66.9	66.6	67.0	67.6	67.9	67.2	67.0
Hispanic men to white men	69.1	68.0	66.0	65.4	64.4	63.8	66.0	66.0	62.7	61.8	61.4	62.4	63.4	63.6	61.9
Hispanic women to white women	82.0	81.8	81.8	80.5	78.8	78.3	78.0	78.1	74.8	73.5	73.8	71.6	72.0	72.0	72.8

[1] Earnings are expressed in nominal dollars.
[2] Full-time workers include persons who usually work 35 hours or more a week on their sole, or principal, job.
[3] Wage and salary workers exclude self-employed persons whether or not their businesses are incorporated.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 1-7. Civilian labor force by age, sex, race, and Hispanic origin, 1988, 1998, and projected 2008

(Numbers in thousands)

Characteristic	Civilian labor force			Change, 1988-98		Change, 1998-2008	
	1988	1998	2008, projected	Number	Percent	Number	Percent
Total, 16 years and older	121,669	137,673	154,576	16,004	13.2	16,903	12.3
Age							
16 to 24 years	22,536	21,894	25,210	-642	-2.8	3,316	15.1
25 to 54 years	84,041	98,718	104,133	14,677	17.5	5,415	5.5
55 years and older	15,092	17,062	25,233	1,970	13.1	8,171	47.9
Sex							
Men	66,927	73,959	81,132	7,032	10.5	7,173	9.7
Women	54,742	63,714	73,444	8,972	16.4	9,730	15.3
Race and Hispanic origin							
Black	13,205	15,982	19,101	2,777	21.0	3,119	19.5
Hispanic origin	8,982	14,317	19,585	5,335	59.4	5,268	36.8
Asian and other	3,708	6,278	8,809	2,570	69.3	2,531	40.3
White	104,756	115,415	126,665	10,659	10.2	11,250	9.7

SOURCE: Table 2 in Howard N Fullerton, "Labor force projections to 2008: steady growth and changing composition," *Monthly Labor Review* November 1999, p. 20.

Table 1-8. **Civilian labor force participation rates by sex, age, race, and Hispanic origin, 1988, 1998, and projected 2008**

(Numbers in thousands)

Characteristic	Participation rates			Percentage-point change	
	1988	1998	2008, projected	1988 to 1998	1998 to 2008
Age and sex					
Total, 16 years and older	65.9	67.4	67.6	1.5	0.2
16 to 24 years	68.4	65.9	66.2	-2.5	.3
25 to 54 years	82.9	84.1	85.4	1.2	1.3
25 to 34 years	83.3	84.6	85.9	1.3	1.3
35 to 44 years	84.6	84.7	86.0	.1	1.3
45 to 54 years	79.6	82.5	84.3	2.9	1.8
55 years and older	30.0	31.3	36.8	1.3	5.5
Men	76.2	74.9	73.7	-1.3	-1.2
16 to 24 years	72.4	68.4	68.0	-4.0	-.4
25 to 54 years	93.6	91.8	91.3	-1.8	-.5
55 years and older	39.9	39.1	43.5	-.8	4.4
Women	56.6	59.8	61.9	3.2	2.1
16 to 24 years	64.5	63.3	64.3	-1.2	1.0
25 to 54 years	72.7	76.5	79.7	3.8	3.2
55 years and older	22.3	25.0	31.2	2.7	6.2
Race and Hispanic origin					
Black	63.8	65.6	66.3	1.8	.7
Men	71.0	69.0	68.3	-2.0	-.7
Women	58.0	62.8	64.6	4.8	1.8
Hispanic origin	67.4	67.9	67.7	.5	-.2
Men	81.9	79.8	77.9	-2.1	-1.9
Women	53.2	55.6	57.9	2.4	2.3
Asian and other	65.0	67.0	66.9	2.0	-.1
Men	74.4	75.5	74.0	1.1	-1.5
Women	56.5	59.2	60.5	2.7	1.3
White	66.2	67.3	67.9	1.1	.6
Men	76.9	75.6	74.5	-1.3	-1.1
Women	56.4	59.4	61.5	3.0	2.1

SOURCE: Table 3 in Howard N Fullerton, "Labor force projections to 2008: steady growth and changing composition," *Monthly Labor Review*, November 1999, p. 24.

Table 1-9. **Labor force participation rates of the foreign-born and native-born by selected characteristics, annual averages, 2000**

Characteristic	Foreign-born			Native-born		
	Total	Men	Women	Total	Men	Women
Age						
Total, 16 years and older	66.7	79.8	54.0	67.2	73.9	61.1
16 to 24 years	60.2	70.6	47.8	66.6	68.4	64.9
25 to 34 years	77.0	92.1	61.4	86.2	93.6	79.2
35 to 44 years	82.1	94.0	69.7	85.3	92.4	78.4
45 to 54 years	80.0	91.0	69.6	82.9	88.3	77.8
55 to 64 years	59.1	73.6	47.3	59.2	66.5	52.4
65 years and older	12.1	18.6	7.4	12.9	17.4	9.6
Education [1]						
Less than a high school diploma	59.0	78.0	41.4	37.4	46.7	29.2
High school graduates, no college	66.5	81.4	54.1	64.4	74.3	55.9
Some college, no degree	72.5	81.7	63.9	72.2	79.2	65.9
College graduates	76.9	85.3	67.4	79.9	84.3	75.2
Race and ethnicity [2]						
Non-Hispanic black	75.0	80.6	69.4	64.9	67.6	62.8
Hispanic origin	69.5	85.4	52.5	67.7	74.8	61.4
Non-Hispanic Asian	67.3	77.8	58.2	66.1	70.0	62.3
Non-Hispanic white	59.1	71.0	48.0	67.6	74.9	60.8

[1] Data by educational attainment are for persons aged 25 years and older.
[2] Data for race and ethnicity groups will not sum to totals, because data for the "other races" group are not presented.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 1-10. **Unemployment rates of the foreign-born and native-born by selected characteristics, annual averages, 2000**

Characteristic	Foreign-born			Native-born		
	Total	Men	Women	Total	Men	Women
Age						
Total, 16 years and older	4.2	3.8	4.9	4.0	3.9	4.0
16 to 24 years	7.9	7.4	8.7	9.5	10.0	8.9
25 to 34 years	3.9	3.1	5.1	3.7	3.5	3.9
35 to 44 years	3.8	3.2	4.7	2.9	2.7	3.1
45 to 54 years	3.2	2.9	3.5	2.4	2.4	2.3
55 to 64 years	3.9	3.8	4.1	2.3	2.3	2.3
65 years and older	4.1	4.7	3.1	3.0	3.2	2.7
Education [1]						
Less than a high school diploma	5.8	4.6	7.8	6.7	6.0	7.8
High school graduates, no college	3.3	2.9	3.9	3.5	3.5	3.5
Some college, no degree	3.3	3.0	3.7	2.8	2.6	3.0
College graduates	2.3	2.1	2.6	1.6	1.4	1.7
Race and ethnicity [2]						
Non-Hispanic black	5.4	5.5	5.2	7.9	8.5	7.4
Hispanic origin	5.1	4.2	6.7	6.4	6.0	6.8
Non-Hispanic Asian	3.2	3.2	3.2	4.7	4.9	4.5
Non-Hispanic white	3.2	2.9	3.6	3.2	3.2	3.2

[1] Data by educational attainment are for persons aged 25 years and older.
[2] Data for race and ethnicity groups will not sum to totals, because data for the "other races" group are not presented.

SOURCE: Bureau of Labor Statistics, Current Population Survey

Table 1-11. Occupational distribution of the foreign-born and the native-born by selected characteristics, annual averages, 2000

Characteristic	Foreign-born			Native-born		
	Total	Men	Women	Total	Men	Women
Total (in thousands)	16,954	10,067	6,887	118,254	62,226	56,028
Percent	100.0	100.0	100.0	100.0	100.0	100.0
Executive, administrative, and managerial	9.9	9.8	10.0	15.3	15.8	14.8
Professional specialty	13.5	12.9	14.5	15.9	13.6	18.5
Technical	2.9	2.7	3.2	3.3	3.0	3.6
Sales	9.8	8.7	11.3	12.4	11.8	13.1
Administrative support	8.9	4.6	15.3	14.5	5.6	24.5
Service	18.9	13.4	26.9	12.7	9.5	16.4
Protective service	.8	1.1	.4	1.9	2.9	.8
Private household	1.8	.1	4.4	.4	–	.8
Other	16.3	12.2	22.2	10.4	6.5	14.8
Precision production, craft, and repair	12.8	19.0	3.6	10.8	18.7	2.0
Operators, fabricators, and laborers	18.9	22.7	13.5	12.8	18.6	6.1
Farming, forestry, and fishing	4.4	6.3	1.6	2.2	3.3	1.1

NOTE: Dash indicates less than 0.05 percent.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 1-12. **Median weekly earnings of foreign-born and native-born full-time[1] wage and salary workers[2] by selected characteristics, annual averages, 2000**

Characteristic	Foreign-born			Native-born		
	Total	Men	Women	Total	Men	Women
Age						
Total, 16 years and older	$447	$477	$407	$591	$676	$500
16 to 24 years	314	320	300	369	387	347
25 to 34 years	433	443	418	574	624	500
35 to 44 years	499	555	423	652	755	534
45 to 54 years	516	586	445	690	804	579
55 to 64 years	483	533	415	635	757	514
65 years and older	381	408	344	457	580	385
Education [3]						
Less than a high school diploma	322	355	286	389	464	313
High school graduates, no college	420	468	377	514	607	426
Some college, no degree	524	584	478	604	710	506
College graduates	852	964	724	902	1,032	764

[1] Full-time workers include persons who usually work 35 hours or more a week on their sole, or principal, job.

[2] Wage and salary workers exclude self-employed persons whether or not their businesses are incorporated.

[3] Data by educational attainment are for people aged 25 years and older.

SOURCE: Bureau of Labor Statistics, Current Population Survey.

Table 1-13. **Consumer unit characteristics by race and ethnicity of reference person, 1999**

Item	All consumer units	Race of reference person		Hispanic origin of reference person	
		White and other	Black	Hispanic	Non-Hispanic
Number of consumer units (in thousands)	108,465	95,293	13,172	9,111	99,354
Percent of all consumer units	100.0	87.9	12.1	8.4	91.6
Income before taxes [1]	$43,951	$45,688	$30,427	$33,803	$44,955
Age of the reference person	47.9	48.3	44.9	41.2	48.5
Average number in consumer unit					
Persons	2.5	2.5	2.7	3.5	2.4
Children under 18	.7	.6	.9	1.3	.6
Persons 65 and older	.3	.3	.2	.2	.3
Earners	1.3	1.4	1.3	1.6	1.3
Vehicles	1.9	2.0	1.3	1.6	2.0
Percent distribution					
Housing tenure:					
Homeowner	65	68	47	44	67
With mortgage	38	39	29	30	39
Without mortgage	27	28	17	14	28
Renter	35	32	53	56	33
Race of reference person:					
Black	12	–	100	4	13
White and other	88	100	–	96	87
Education:					
Elementary (1-8)	6	6	8	22	5
High school (9-12)	39	38	48	45	38
College	55	56	44	32	57
Never attended and other	(2)	(2)	(2)	1	(2)
At least one vehicle owned or leased	87	89	73	82	88

[1] Components of income and taxes are derived from "complete income reporters" only.
[2] Indicates less than 0.5 percent.

NOTE: Dash indicates data not applicable.

SOURCE: Bureau of Labor Statistics, Consumer Expenditure Survey.

Table 1-14. **Allocation of average annual expenditures per consumer unit, and aggregate expenditure shares by race of reference person, 1999**

Item	Shares of total expenditures		Aggregate expenditure shares	
	White and other	Black	White and other	Black
Number of consumer units (in thousands)	95,293	13,172	95,293	13,172
Percent of all consumer units	87.9	12.1	87.9	12.1
Total expenditures	$38,323	$27,340	$3.7 trillion	$0.4 trillion
Percent	100.0	100.0	91.0	9.0
Food	13.4	15.1	89.9	10.0
Food at home	7.7	9.7	88.9	11.1
Food away from home	5.7	5.4	91.4	8.5
Alcoholic beverages	.9	.6	93.7	6.0
Housing	32.3	35.5	90.2	9.8
Shelter	18.8	20.1	90.5	9.5
Owned dwellings	12.5	9.8	92.8	7.2
Rented dwellings	5.0	9.8	83.9	16.1
Other lodging	1.3	.5	96.4	3.7
Utilities, fuels, and public services	6.2	8.8	87.7	12.3
Household operations	1.8	1.7	91.7	8.3
Housekeeping supplies	1.3	1.3	91.0	8.8
Household furnishings and equipment	4.1	3.6	92.0	8.0
Apparel and services	4.5	6.9	86.9	13.1
Transportation	19.0	18.7	91.2	8.8
Vehicle purchases (net outlay)	9.0	8.7	91.3	8.7
Gasoline and motor oil	2.9	2.8	91.3	8.7
Other vehicle expenses	6.1	6.1	90.9	9.1
Public transportation	1.1	1.1	91.2	8.9
Healthcare	5.4	4.0	93.2	6.8
Health insurance	2.5	2.1	92.5	7.4
Medical services	1.6	.9	94.8	5.2
Drugs	1.0	.9	92.1	7.7
Medical supplies	.3	.2	93.5	6.2
Entertainment	5.3	3.4	93.9	6.0
Personal care products and services	1.1	1.5	88.1	11.9
Reading	.4	.3	93.9	6.2
Education	1.7	1.5	92.1	7.8
Tobacco products and smoking supplies	.8	.8	91.7	8.4
Miscellaneous	2.4	2.2	91.7	8.2
Cash contributions	3.3	2.0	94.4	5.6
Personal insurance and pensions	9.4	7.7	92.6	7.4

SOURCE: Bureau of Labor Statistics, Consumer Expenditure Surveys.

Table 1-15. **Consumer unit characteristics by ethnicity of reference person, 1994 and 1999**

Item	Non-Hispanic reference person		Hispanic reference person	
	1994	1999	1994	1999
Number of consumer units (in thousands)	94,479	99,354	7,730	9,111
Percent of all consumer units	92.4	91.6	7.6	8.4
Income before taxes[1]	$37,000	$44,955	$26,750	$33,803
Age of the reference person	48.2	48.5	41.1	41.2
Average number in consumer unit				
Persons	2.5	2.4	3.4	3.5
Children under 18	.7	.6	1.3	1.3
Persons 65 and older	.3	.3	.2	.2
Earners	1.3	1.3	1.5	1.6
Vehicles	2.0	2.0	1.6	1.6
Percent distribution				
Housing tenure:				
Homeowner	65	67	42	44
With mortgage	37	39	28	30
Without mortgage	27	28	14	14
Renter	35	33	58	56
Race of reference person:				
Black	12	13	3	4
White and other	88	87	97	96
Education:				
Elementary (1-8)	7	5	25	22
High school (9-12)	43	38	45	45
College	49	57	29	32
Never attended and other	0	(2)	1	1
At least one vehicle owned or leased	86	88	80	82

[1] Components of income and taxes are derived from "complete reporters" only.
[2] Indicates less than 0.5 percent.

SOURCE: Bureau of Labor Statistics, Consumer Expenditure Surveys.

Table1-16. **Average annual and aggregate expenditure shares by ethnicity of reference person, 1999**

Item	Expenditure shares		Aggregate shares	
	Hispanic reference person	Non-Hispanic reference person	Hispanic reference person	Non-Hispanic reference person
Number of consumer units (in thousands)	9,111	99,354	9,111	99,354
Percent of population	8.4	91.6	–	–
Total expenditures	$33,044	$37,356	$0.3 trillion	$3.7 trillion
Percent	100.0	100.0	7.6	92.4
Food	16.6	13.3	9.4	90.6
Food at home	10.8	7.6	10.5	89.5
Food away from home	5.9	5.7	7.9	92.1
Alcoholic beverages	.8	.9	7.3	92.7
Housing	33.3	32.5	7.7	92.3
Shelter	20.5	18.8	8.1	91.9
Owned dwellings	9.6	12.4	5.9	94.1
Rented dwellings	10.4	5.1	14.2	85.8
Other lodging	.5	1.3	3.1	96.9
Utilities, fuels, and public services	6.4	6.4	7.5	92.5
Household operations	1.4	1.8	5.9	94.1
Housekeeping supplies	1.3	1.3	7.7	92.3
Household furnishings and equipment	3.6	4.1	6.7	93.3
Apparel and services	6.3	4.6	10.2	89.8
Transportation	20.6	18.8	8.2	91.8
Vehicle purchases (net outlay)	10.2	8.8	8.5	91.5
Gasoline and motor oil	3.4	2.8	8.9	91.1
Other vehicle expenses	6.0	6.1	7.4	92.6
Public transportation	1.0	1.1	7.3	92.7
Healthcare	3.4	5.4	4.8	95.2
Health insurance	1.6	2.6	4.9	95.1
Medical services	.9	1.6	4.7	95.3
Drugs	.6	1.0	4.9	95.1
Medical supplies	.2	.3	4.8	95.2
Entertainment	3.8	5.2	5.6	94.4
Personal care products and services	1.2	1.1	8.5	91.5
Reading	.2	.4	3.7	96.3
Education	1.1	1.8	4.9	95.1
Tobacco products and smoking supplies	.5	.8	4.8	95.2
Miscellaneous	1.9	2.4	6.2	93.8
Cash contributions	2.1	3.3	4.8	95.2
Personal insurance and pensions	8.2	9.4	6.6	93.4

SOURCE: Bureau of Labor Statistics, Consumer Expenditure Surveys.

Table 1-17. **Aggregate expenditure shares for Hispanics, 1994 and 1999**

Item	1994	1999
Number of consumer units (in thousands)	7,730	9,111
Percent of all consumer units	7.6	8.4
Average annual expenditures per consumer unit	$26,433	$33,044
Percent of all consumer expenditures		
Total expenditures	6.3	7.6
Food	7.7	9.4
Food at home	9.3	10.5
Food away from home	5.2	7.9
Alcoholic beverages	5.7	7.3
Housing	6.7	7.7
Shelter	7.1	8.1
Owned dwellings	5.0	5.9
Rented dwellings	12.1	14.2
Other lodging	2.5	3.1
Utilities, fuels, and public services	6.8	7.5
Household operations	5.5	5.9
Housekeeping supplies	6.9	7.7
Household furnishings and equipment	5.3	6.7
Apparel and services	8.7	10.2
Transportation	6.1	8.2
Vehicle purchases (net outlay)	6.0	8.5
Gasoline and motor oil	6.9	8.9
Other vehicle expenses	5.7	7.4
Public transportation	5.9	7.3
Healthcare	4.6	4.8
Health insurance	4.4	4.9
Medical services	5.3	4.7
Drugs	3.9	4.9
Medical supplies	3.6	4.8
Entertainment	4.5	5.6
Personal care products and services	8.6	8.5
Reading	3.5	3.7
Education	5.5	4.9
Tobacco products and smoking supplies	4.0	4.8
Miscellaneous	5.8	6.2
Cash contributions	3.6	4.8
Personal insurance and pensions	5.2	6.6

SOURCE: Bureau of Labor Statistics, Consumer Expenditure Surveys.

Table 1-18. **Selected characteristics of the resident population, 1750 to 1999**

(In thousands)

Date	Sex		Race					Hispanic origin[1]
					Other			
	Men	Women	White	Black	Total	American Indian, Eskimo, Aleut	Asian, Pacific islander	
Estimated:[2]								
1750	–	–	1,040	220	–	–	–	–
1754	–	–	1,165	260	–	–	–	–
1760	–	–	1,385	310	–	–	–	–
1770	–	–	1,850	462	–	–	–	–
1780	–	–	2,383	562	–	–	–	–
Decennial Census Data:								
1790[3]	–	–	3,172	757	–	–	–	–
1800[3]	–	–	4,306	1,002	–	–	–	–
1810[4]	–	–	5,862	1,191	–	–	–	–
1820[4]	–	–	7,867	1,772	–	–	–	–
1830[4]	–	–	10,537	2,329	–	–	–	–
1840[4]	–	–	14,196	2,874	–	–	–	–
1850[3]	–	–	19,553	3,639	–	–	–	–
1860[5]	–	–	26,923	4,442	–	–	–	–
1870[5]	–	–	33,589	4,880	–	–	–	–
1880[5]	–	–	43,403	6,581	–	–	–	–
1890[4]	–	–	54,984	7,470	–	–	–	–
1900[3]	38,816	37,178	66,809	8,834	351	–	–	–
1910[3]	47,332	44,640	81,732	9,828	413	–	–	–
1920[3]	53,900	51,810	94,821	10,463	427	–	–	–
1930[3]	62,137	60,638	110,287	11,891	597	–	–	–
1940[3]	66,062	65,608	118,215	12,866	589	–	–	–
1950[3]	74,833	75,864	134,942	15,042	713	–	–	–
1950[3]	75,187	76,139	135,150	15,045	1,131	–	–	–
1960	88,331	90,992	158,832	18,872	1,620	–	–	–
1970[6]	98,926	104,309	178,098	22,581	2,557	–	–	–
1980[7,8]	110,053	116,493	194,713	26,683	5,150	1,420	3,729	14,609
1990[7,8]	121,284	127,507	208,741	30,517	9,534	2,067	7,467	22,379

Table 1-18. **Selected characteristics of the resident population, 1750 to 1999—Continued**

(In thousands)

Date	Sex		Race					Hispanic origin[1]
					Other			
	Men	Women	White	Black	Total	American Indian, Eskimo, Aleut	Asian, Pacific Islander	
Current Population Survey data:								
1991 (July 1)[10]	122,956	129,197	210,975	31,137	10,041	2,112	7,929	23,391
1992 (July 1)[10]	124,424	130,606	212,874	31,683	10,473	2,149	8,324	24,283
1993 (July 1)[10]	125,788	131,995	214,691	32,195	10,897	2,187	8,710	25,222
1994 (July 1)[10]	127,049	133,278	216,379	32,672	11,276	2,222	9,054	26,160
1995 (July 1)[10]	128,294	134,510	218,023	33,116	11,664	2,256	9,408	27,107
1996 (July 1)[10]	129,504	135,724	219,636	33,537	12,055	2,290	9,765	28,099
1997 (July 1)[10]	130,783	137,001	221,333	33,989	12,461	2,326	10,135	29,182
1998 (July 1)[10]	132,030	138,218	222,980	34,427	12,840	2,361	10,479	30,252
1999 (July 1)[10]	133,277	139,414	224,611	34,862	13,217	2,397	10,820	31,337

[1] Persons of Hispanic origin may be of any race.

[2] Data are from Wright, Carroll D., *The History and Growth of the United States Census* (New York, Johnson Reprint Corporation, 1966).

[3] Excludes Alaska and Hawaii.

[4] Source: *Historical Statistics of the United States, Colonial Times to 1970, Bicentennial Edition, Part 2* (Census Bureau, 1975).

[5] See Campbell J. Gibson and Emily Lennon, "Historical Census Statistics on the Foreign-born Population of the United States: 1850-1990," Population Division Working Paper No. 29 (Census Bureau, February 1999).

[6] The revised 1970 resident population count is 203,302,031, which incorporates changes due to errors found after tabulations were completed. The race and sex data shown here reflect the official 1970 census count.

[7] The race data shown have been modified to be consistent with the guidelines in Federal Statistical Directive No. 15 issued by the Office of Management and Budget. Figures are not comparable with the 1990 census race categories.

[8] Total population count has been revised since the 1980 census publications. Numbers by age, race, Hispanic origin, and sex have not been corrected.

[9] The April 1, 1990, census count (248,765,170) includes count resolution corrections processed through August 1997 and does not include adjustments for census coverage errors except for adjustments estimated for the 1995 Census Test in Oakland, CA; Paterson, NJ; and six Louisiana parishes. These adjustments amounted to a total of 55,297 persons.

[10] Estimated.

NOTE: Dash indicates data not available.

SOURCE: *Statistical Abstract of the United States, 2000: The National Data Book* (Census Bureau, 2000).

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Endnotes

[1] See Baseler, 1998, p. 34.

[2] See Hatton and Williamson, 1998, p.7.

[3] See Thomas, 1997, p. 552.

[4] See Thomas, p. 568.

[5] See Jenks, Lauck, and Smith, 1922, p. 368.

[6] See Hatton and Williamson, 1998, p. 75.

[7] Immigration and Naturalization Service, "Immigrants, Fiscal Year 1998," *Statistical Yearbook of the Immigration and Naturalization Service, 1998* (Washington, U.S. Government Printing Office, 2001), table 2.

[8] See Japiske, 1994.

[9] See Hatton and Williamson, 1998, p.75.

[10] See Gyory, 1998, p. 31.

[11] Gyory, p.40.

[12] Daniels, Roger, *Asian America: Chinese and Japanese in the United States since 1850* (Seattle, University of Washington Press, 1988), p. 52.

[13] See Gyory, p. 216.

[14] See Chan, 2000.

[15] See Hatton and Williamson, 1998, p.124.

[16] See Hatton and Williamson, p. 149.

[17] See Schmidley and Gibson, 1999, p.9.

[18] See Schmidley and Gibson, 1999, p. 9.

[19] See Wynn, "Black Americans," 1993, p. 251.

[20] See Rutkoff and Scott, 2000.

[21] See Wynn, "Black Americans," 1993, p. 262.

[22] See McKinnon and Humes, 2000, p. 1.

[23] See Wright, 1900, p. 13.

[24] "All other persons" referred to slaves, who were assigned a count equal to three-fifths of free persons.

[25] See Perlman, 2001.

[26] See Norwood and Klein, 1989, p. 16.

[27] The CPS is a monthly survey of households conducted for BLS by the Census Bureau through a scientifically selected sample designed to represent the civilian noninstitutional population. Respondents are interviewed to obtain information about the employment status of each member of the household 16 years of age and older. The inquiry relates to activity or status during the calendar week, Sunday through Saturday, which includes the 12th day of the month. This is known as the "reference week." Actual field interviewing is conducted in the following week, referred to as the "survey week."

Each month about 50,000 occupied units are eligible for interview. Some 3,200 of these households are contacted but interviews are not obtained because the occupants are not at home after repeated calls or are unavailable for other reasons. This represents a noninterview rate for the survey that ranges between 6 and 7 percent. In addition to the 50,000 occupied units, there are 9,000 sample units in an average month, which are visited but found to be vacant or otherwise not eligible for enumeration. Part of the sample is changed each month. The rotation plan, as explained later, provides for three-fourths of the sample to be common from one month to the next, and one-half to be common with the same month a year earlier.

[28] For a brief history of the Current Population Survey, see "Design and Methodology, Current Population Survey," Technical Paper 63 (Census Bureau, March 2000), pp. 2-1 through 2-5.

[29] "AAA recommends 'race' be scrapped; suggests new government categories," Press Release/OMB 15 (American Anthropological Association, Sept. 8, 1997).

[30] Ibid.

[31] See *Enumerator's Reference Manual, Current Population Survey and Housing Vacancy Survey* (Census Bureau, January 1961), p. D-50.

[32] See *Interviewer's Reference manual, Current Population Survey* (Census Bureau, December 1971 (rev. July 1985)), pp. D3-44–D3-45.

[33] Ibid., p. D3-48.

[34] See *Current Population Survey Interviewing Manual* (Census Bureau, January 1999), pp. C3-23–C3-28.

[35] See "Labor Conditions," 1920, p. 225.

[36] *Annual Report on the Labor Force: 1949, Current Population Reports*, Series P-50, No. 19 (Census Bureau, Mar. 2, 1951), table 18, p. 23.

[37] *Annual Report on the Labor Force: 1955, Current Population Reports*, Series P-50, No. 67 (Census Bureau, March 1956), table 4, p. 20.

[38] "Nonwhite" as a distinct racial category has not been in use for a number of years. Hence, data by race that can be found in publications like the *Handbook of Labor Statistics* (as published by the Bureau of Labor Statistics) or in Labor Force Statistics from the Current Population Survey, are only for whites. But, of course, the nonwhite estimates can be de-

rived by subtraction.

[39] See Gloria P. Green, Khoan tan Dinh, John A. Priebe, and Ronald A. Tucker, "Revisions in the Current Population Survey Beginning in January 1983," *Employment and Earnings*, February 1983, p. 14.

[40] See *Employment and Earnings*, April 1974, p. 137. "The term 'Negro' is used in tables when the relevant data provided is for Negroes exclusively."

[41] See *Employment and Earnings*, April 1974, table A-60, p. 63.

[42] See "The Employment Situation: January 1982," USDL 82-40 (Bureau of Labor Statistics, Feb. 5, 1982).

[43] See *Employment and Earnings*, February 1983, table 3, p. 20.

[44] Prior to 1972, data were for "black and other," or equivalently, "nonwhites." This change made very little difference in terms of labor force data at the time since more than 90 percent of nonwhites were blacks.

[45] See Howard N Fullerton, Jr., "Labor force projections to 2008: steady growth and changing composition," *Monthly Labor Review*, November 1999, pp. 19-32.

[46] The foreign-born population, although primarily composed of legally admitted immigrants, includes refugees, temporary residents such as students and temporary workers, and undocumented immigrants. "Natives" are persons born in the United States, Puerto Rico, or an outlying area of the United States such as Guam or the U.S. Virgin Islands, and persons who were born in a foreign country but who had at least one parent who was a U.S. citizen. All others are foreign-born.

[47] Income data are described for complete reporters only. In general, a consumer unit that provides values for at least one of the major sources of its income, such as wages and salaries, self-employment, and Social Security income is classified as a "complete income reporter." However, even complete income reporters may not provide a complete accounting of all sources of income.

[48] Note that total shelter, as defined in tables 14 and 15, omits utilities, but includes other lodging (such as for vacation stays or room at school). Because blacks are noticeably underrepresented in other lodging (4 percent), this diminishes the overall shelter share. However, other lodging is a small component of shelter for both black and nonblack consumers.

Social and Economic Timeline	
1901	President McKinley assassinated
1902	United States passes the Chinese Exclusion Act
1903	Movie, "The Great Train Robbery"
1904	New York City subway opens
1906	Upton Sinclair writes *The Jungle*
1908	Ford introduces the Model-T
1909	NAACP is founded
1911	Standard Oil Company broken up
	Triangle Shirtwaist Factory fire
1913	Personal income tax introduced in the United States
1916	First self-service grocery store opens
1917	Russian Revolution
1919	Prohibition begins in the United States
1920	Women granted the right to vote in the United States
1921	Extreme inflation in Germany
1929	New York Stock Market crashes
1930	Sliced bread available
1933	Prohibition ends in the United States
1934	Cheeseburger created
1935	CIO formed
	John Maynard Keynes suggests New Economic Theory
1939	Movie, "Gone with the Wind"
1940	Nylons on the market
1944	Ballpoint pens go on sale
1946	Dr. Spock publishes *The Common Book of Baby and Child Care*
1950	First modern credit card introduced
1952	Car seat belts introduced
1954	Surgeon General's report says cigarettes cause cancer
	Segregation ruled illegal in the United States
1955	AFL and CIO merge
	McDonald s Corporation founded
1960	First televised Presidential debates
	Birth control for women "The Pill" introduced
1962	Rachel Carson publishes *Silent Spring*
1963	President Kennedy assassinated
1966	Mass draft protests in the United States
1967	First Super Bowl
1972	Watergate scandal begins
1973	Abortion legalized in the United States
1974	President Nixon resigns
1975	Microsoft founded
1979	Sony introduces the Walkman
1980	Ted Turner establishes CNN
1984	Huge poison gas leak in Bhopal, India
1985	New Coke hits the market with a thud
1987	New York Stock Exchange suffers huge drop on "Black Monday"
1989	Fall of the Berlin Wall
1997	Tallest buildings in the world built in Kuala Lumpur
1999	The Euro becomes the New European currency

Chapter 2

The Evolution of Compensation in a Changing Economy

Over the course of the 20th century, American workers have witnessed an evolution in compensation. Through the century, the changes in the methods of pay have usually been stimulated by some form of imbalance caused by a crisis or demographic shift. For the 20th century American worker, no greater crisis was experienced than the Great Depression, a watershed in how employers paid their workers. But growth in unionization and the increase in the number of working women, among other shifts, have also contributed to changes in pay practices.

Payment for labor services has evolved from simple piecework pay to sophisticated contractual compensation packages. At the turn of the 20th century in America, few workers would have received anything more than wages as compensation for their labor services. But by the close of the century, a typical worker received more than 25 percent compensation in the form of benefits. These benefits, which were termed fringe benefits for most of the century, consisted of employer-paid items such as health, life and unemployment insurance; retirement and savings; and holiday and vacation leave. Today, benefit components making up the compensation package continue to evolve, with variable pay plans—such as profit-sharing and stock options—growing in importance. Additionally, emerging benefits, such as family care, are becoming widely available.

Structural change and American labor

For the first third of the 20th century, compensation for industrial workers was composed mainly of wages that were based on a worker's production performance, typically a piece rate paid on each unit produced. (This chapter focuses on compensation of industrial workers. Agricultural and domestic workers are excluded, as a substantial number received a significant portion of their compensation in kind. In kind pay, such as room and meals, is not captured in most compensation surveys.)

The setting of piece rates for unit production was rarely prescribed by any formal managerial or industrial standards but was typically at the discretion of the individual shop foreman. Since wage standards would not come until later—through legislation and union activity—many workers were at the mercy of

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current business conditions in their individual industries.

Also, at this time, a structural shift in employment, driven by technological advances and product demand, had little impact on the way workers were paid. That is not to say that real wages were stagnant; however. Weekly earnings of workers in manufacturing moderately increased for most quinquenniums, with substantial increases coming during the World War I years, when labor markets were constrained.[1] (See box on p. 5)

With no modern-day benefits, workers and their families bore the economic risks that were associated with sickness, unemployment, and old age. Household savings provided the main source of security, with charitable organizations sometimes helping. At this time, labor unions were actually reluctant to take up the cause for economic insurance benefits, as unions were adverse to employers—or the government—mingling in such worker affairs. American labor unions and their members espoused freedom and independence, favoring a pro-labor capitalistic approach.

Labor's stance was traceable to the many in the labor movement who had an agrarian heritage of self-sufficiency and independence that provided little ideological rationale for bargaining for security benefits. The sentiment of the time could be heard in the words of Samuel Gompers, president of the American Federation of Labor from 1886 to 1924, who argued in 1917 that compulsory benefits, "...weakens independence of spirit, delegates to outside authorities some of the powers and opportunities that rightfully belong to wage earners, and breaks down industrial freedom by exercising control over workers through a central bureaucracy."[2] Labor's attitude towards self-sufficiency and independence would not weaken until some 15 years later under the devastation of the Great Depression.

The influence of Social Security legislation

The burden of the Great Depression would prove too great for households and charitable organizations to bear. At no time in modern America's history had such a large proportion of workers been without jobs; estimates of annual average unemployment reached a rate approaching 25 percent. The depth of the Depression would ultimately provide the catalyst for change in labor's attitude about self-sufficiency that would, in turn, give way to changes in how American workers were paid.

President Roosevelt's New Deal legislation provided sweeping change. In 1935, with so many with so little, the Federal Government passed, with the approval of labor, the Social Security Act (SSA). The passage of this legislation provided a nationwide system of social insurance that today still protects workers from loss of wages stemming from unemployment and old age. The 1935 SSA was the first thread of a public social security net that would limit the economic hardship of workers and their families.

When first enacted, the SSA provided coverage for fewer than fewer 60 percent of the workforce; but following several amendments, coverage soon expanded to more than 90 percent. Aside from increasing the numbers covered, amendments extended benefits to dependents and survivors and to the disabled in 1939 and 1956, respectively. The Act was broadened in scope, in 1965, to provide medical coverage to the elderly retired.

Social Security was the first nationwide *legally required* benefit. Although some States beforehand had enacted legislation requiring employers to provide workers' compensation benefits, no State had a program that protected workers' incomes through economic cycles or old age. The passage of the SSA and the hardships experienced during the Great Depression would pave the way for a series of changes in the composition of pay; but the *drafting* of this seminal act purposefully maintained, at least in part, the spirit of self-sufficiency. From its inception, the economic protections afforded under the SSA have been treated as social insurance in which participation was a right acquired by working, and the premiums shared equally by employer and employee through payroll taxes.

The right to bargain collectively

In the wake of the Great Depression, important pro-labor legislation was passed, but none was more fundamental than the National Labor Relations Act of 1935 (Wagner Act). The Wagner act guaranteed the twin rights of workers to join labor unions and to bargain collectively. This act turned the tide for union labor that had too often encountered court defeats in cases of management and union entanglements. The immediate impact of the Wagner Act can be seen in the increase in union membership. Unions swelled more than

two-fold between 1935 and 1940, rising from 3.8 million to 9 million—a stark change of events from the declines experienced just a few years earlier. This quinquennium growth would be matched by no other period in the history of American labor.

The rapid growth in strength of unions, numerically and financially, continued through the World War II years. After the war, unions—with their newfound strength—pressed hard for higher wages, and when not met, orchestrated widespread strikes that would, in the end, raise the public's ire. Although the Wagner Act had prohibited unfair labor practices by management, there were no prohibitions on union's behavior. Similar to the cries heard at the turn of the century for trust busting, the public demanded that Congress enact legislation that would restrict and control union behavior. As an amendment to the Wagner Act, in 1947, Congress passed the Labor Management Relations (Taft-Hartley) Act, which specifically prohibited unfair union practices, such as jurisdictional and sympathy strikes and featherbedding. The Taft-Hartley Act also placed restrictions on union administration, contract contents, and health and safety strikes. After the passage of the Taft-Hartley Act reeled in union power, however, two court cases came on its heels that would expand unions' bargaining scope to employer-provided benefits.

Economic constraints and accompanying inflationary pressures of World War II forged changes in compensation practices of many employers. The War Labor Board, charged with maintaining price stability, placed restrictions on cash-wage increases employers could offer. With a short supply of labor to produce a growing demand for war products,[3] employers began offering nonwage benefits, which included insurance, pension plans, and holiday and vacation leave, as a means to attract and retain workers. The War Labor Board encouraged these offerings, considering them as fringe benefits with little inflationary potential.

However, once these benefits made their way into practice, workers began to regard them as mainstay components of compensation. The cry 30 years earlier by Gompers' that mandating benefits "weakens independence of spirit" had dissipated. In the post-war years, unions would not only fight for wage increases but also benefits. The courts would prove instrumental in this fight. In the 1948 case of *Inland Steel v. NLRB*, the court interpreted the right to bargain for working conditions, protected under the Wagner Act, to include the right to bargain for retirement benefits. In the 1949 case of *W. W. Cross and Co. v. NLRB*, the court came to the same conclusion for health insurance. These benefits would become mainstay compensation components of union contracts and would slowly emerged as part of nonunion compensation as well. (The growth of employer provided benefits is described later in this section.)

Setting standards

Other important labor legislation was also passed in the wake of the Great Depression. The Davis-Bacon Act of 1931 and the Walsh-Healey Act of 1936, to name two, established wage standards for workers employed by contractors or subcontractors on public construction or in the provision of materials and supplies to the Federal Government. (Before these laws, formal wage standards of any kind had been uncommon.)

The passage of the Fair Labor Standards Act (FLSA) of 1938, which remains today one of the most significant acts regarding labor standards, set working-condition requirement for most workers engaged in or producing goods for interstate commerce. The FSLA set minimum wages, maximum hours, and overtime stand-ards that employers had to follow. Additionally, this act set national rules for child labor, at a critical time in history. (Child labor legislation had been evolving for some time in State houses, but falling real wages during the Great Depression precipitated a national restriction on the use of child labor.)

The FSLA had a direct effect on compensation, as it not only set minimum wage standards, but also established provisions for overtime hours and pay that would become part of wage benefits for all nonexempt workers. In conjunction with the SSA, the FSLA wove an additional thread into the national social security net by legislatively setting a living wage and decent hours for American workers.

In 1949, the FLSA was amended to directly prohibit child labor; in 1958, the Welfare and Pension Disclosure Act was passed, setting reporting requirements for administrators of health insurance, pensions, and supplementary plans; and, in 1959, the Labor-Management Reporting Act was passed, providing additional protection for the rights of union members.

During the 1960s and 1970s, laws protecting against discrimination and laws protecting the health and safety of workers were passed. Still other labor-related legislation dealt with taxation and standards for administering pension plans. Throughout these years, families were undergoing significant economic changes. Women, particularly married women with children, were a growing presence in the workforce. Between 1960 and 1995, the number of married working mothers grew from 6.6 million to 18 million. The number of single working mothers also took on its own presence, growing from 0.6 million in 1980 to 2.1 million in 1995.[4]

While these changes in families' work choices were occurring, industries were shifting from goods-producing to service-producing, which led to a disproportional growth in white-collar occupations—occupations where unionization was not very common. As a result, changes in pay methods and working conditions would not be ushered in by unions, as they were at mid-century. Instead, legislative initiatives provided the framework for new workplace and compensation practices.

The compositional change in families brought a desire for flexibility: flexibility in leave for family care and flexibility in the assortment of benefits employers provided. For the former, legislation helped with the passage of the Pregnancy Discrimination Act in 1978 and the Family and Medical Leave Act of 1993. For the latter, employers have begun to offer flexible benefit plans, in an attempt to tailor benefits offered to employees.

With a rising number of two-earner families, conflicts in benefits received by families began to emerge. Perhaps the most important was double health insurance coverage. In terms of hourly costs, health insurance is the most expensive voluntary benefit employers offer. Thus, it is economically prudent not to have employer expenditures dispersed on double coverage. This—among other motivations—brought about *flexible benefit* packages, or *cafeteria plans*, that first emerged in the 1970s. Flexible benefit plans are arrangements in which employees are given an allotment of benefit costs to tailor individual benefit packages, by selecting only those benefits that are most valuable to specific needs. Although flexible benefit plans still are quite limited, they are growing in popularity. In 1986, only 2 percent of workers employed in medium and large private establishments were eligible to participate in a flexible benefit plan; but, by 1997, it had grown to 13 percent.

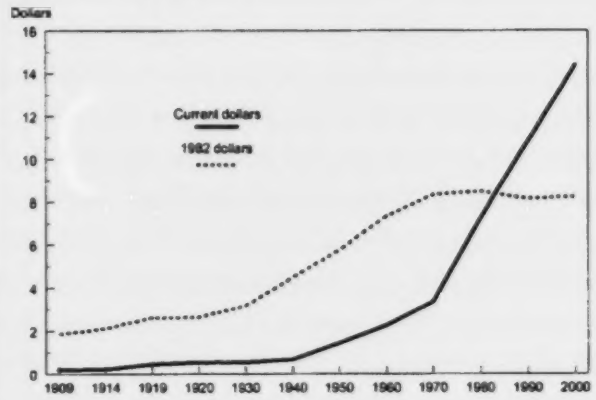
Measuring Real Earnings over the Long Term

The evolution of the average hourly earnings of production workers in manufacturing—adjusted to reflect changes in the purchasing power of the dollar—might tempt one to announce that the *real wage of factory workers* quadrupled between 1909 and 1999.

There are, however, significant statistical issues that undermine confidence in that statement. First, the equivalence of the concepts of *earnings*, *wages*, and *compensation* has eroded tremendously, as this chapter documents in some detail. Second, there have been changes in the sheer technical quality of estimates of both earnings and prices, as this section documents briefly. Third, and most significantly, there exists great difficulty in making valid comparisons over long spans of time of the cost of living or its inverse—the purchasing power of cash earnings.

The average hourly earnings of production workers in manufacturing is one of the longest running series in the Bureau of Labor Statistics (BLS) repertoire. Data on earnings of factory workers were first published regularly starting in the January 1916 edition of the *Monthly Labor Review*. Additionally, similar data are available from BLS as far back as 1909 in less regular form, and economic historians have constructed estimates for years prior to that.

Chart 2-1. **Average hourly earnings of production workers in manufacturing, 1909-2000**



Naturally, there have been numerous efforts to improve the quality of the payroll survey estimates over the years. For example, BLS Bulletin 610, *Revised Indexes of Factory Employment and Pay Rolls 1919 to 1933*, was the Bureau's first essay at benchmarking survey estimates to adjust for any pronounced bias when compared with trends in censuses of employment.

In the late forties, BLS addressed some methodological problems, including making the estimates of average weekly earnings and average hourly earnings consistent with each other, using the *link relative* technique to eliminate inconsistencies due to changing samples, and using aggregate hours—instead of employment—as the weight for aggregation of average hourly earnings to higher levels of industry aggregation.

In the early 1960s, all industries became classified on the Standard Industrial Classification (SIC) basis, when nonmanufacturing was converted to the SIC system from the Social Security Board classifications. In 1961, work began to design comprehensively a sample stratified by *size* of establishment, instead of sampling only establishments with employment over a certain industry-specific number. And in 1966, the *link and taper* method became routinely used for the monthly calculation of hours and earnings.

In 1970, for the first time, the Current Employment Statistics (CES) program began publishing seasonally adjusted estimates of average hourly earnings, using the *BLS Seasonal Factor Method*. Seasonal factoring, or adjustment, permits the more accurate interpretation of intra-year trends in economic time series by *smoothing* regular month-to-month fluctuations caused by weather, holidays, and other factors. In the 1980s, the CES program continued to expand the survey sample and made additional changes in seasonal adjustment procedures and industry coding, as well as other technical changes. The number of establishments surveyed in the service sector doubled between 1979 and1989, although sampling as a percent of the service-producing universe remained unchanged.

Starting in 1995, changes in sampling techniques were developed to achieve a genuinely random sample. Besides creating a new sampling design, the CES program made modifications in the formulas for estimation. For hourly earnings, the link technique was kept, but weights were assigned to each sampled unit. (The use of weights replaced the use of size-based strata.) By the end of the decade, however, the new sample and new formulas were in use only in the wholesale trade division; changes are to extend to the remaining divisions over the next few years.

As a result of these and other program improvements, the degree to which Current Employment Statistics estimates needed to be adjusted to benchmarks was reduced substantially. Bulletin 610, published in 1934, reported a cumulative bias of about 11 percent between 1923 and 1929. Today's status is outlined in the monthly Employment Situation news release: "Over the past decade, the benchmark revision for total nonfarm employment has averaged 0.3 percent, ranging from zero to 0.7 percent."

Calculating real, inflation-adjusted, earnings requires a price index to deflate current dollars to a constant level of buying power. The most commonly used index for this purpose is the Consumer Price Index (CPI). Like the measure of unadjusted, or *nominal*, earnings, the CPI has a long history of development and improvement.

Cost-of-living and retail price statistics are mentioned as early in the Bureau's history as 1891, and the first weighted retail price index was published in 1903. Since those early days, there is virtually no aspect of price index statistics that has not been improved. The number of monthly prices collected has grown from about 5,000 for the *30 principal items of food* in the 1903 publication to about 70,000 that are grouped into 305 categories called *entry level items*. Additionally, the number of outlets sampled has grown from 800 for the earliest years of the index to about 30,000 retail and service establishments; and about 27,000 landlords and tenants provide data on housing units. Also, the number of localities for which data are collected has risen from 32 to 87.

Perhaps the most consistent element of the consumer price program's scope has been its framework of a family's living costs. The definition of the index family for the CPI used in the calculation of real wages, the Consumer Price Index for Urban Wage Earners and Clerical Workers (CPI-W) has been fairly stable. In the earliest reports, the family was composed of two or more persons with a chief earner—either a wage earner or an earner working at a relatively low salary. The restriction to wage-earner families continues; but, in 1964, single-person families were introduced for the first time.

Another consistent characteristic of the Consumer Price Index program has been technical improvement. Starting in 1940, the Bureau of Labor Statistics conducted a full-scale revision of the Consumer Price Index, to take into account new population patterns, changes in the composition of consumer expenditures, and improvements in survey concepts and methods. Five subsequent revisions have ensued, with the latest one introduced in 1998. It is important, however, to recognize that many improvements in the CPI have been implemented outside the formal revision process. Some of the most important of these inter-revision changes were the adoption, in 1967, of the quality adjustment concept in handling automobile model changeovers; the shift in 1985 (1983 for the CPI for All Urban Consumers, or CPI-U) to a flow-of-services model for pricing owner-occupied housing; and the implementation of hedonic or regression-based quality adjustments, starting with apparel prices in 1991. Perhaps most significant of the more modern improvements has been the adoption of a new functional form, the geometric mean, to calculate the average of prices of items within most CPI product categories. One effect of using geometric means is that the formula now adjusts to some degree for changes in consumption that one might assume would result from changes in the relative prices of items in the CPI market basket.

As a result of this and the other improvements, the CPI-W today is a better measure of living costs than previously, and is the best statistic to use to deflate one month's or one year's earnings' estimates into dollars comparable with the dollars of adjacent (or at least close-by) months or years. But even with nearly perfect earnings' estimates and price indexes, is it legitimate to make a comparison of the real earnings of 1909 with real earnings of 1999?

Simply doing the arithmetic results in real earnings of $2.03 constant 1982 dollars in 1909 and $8.26 constant 1982 dollars in 1999. A more complex question is whether or not we can meaningfully compare—over a span of nearly a century—the standard of living purchased by even the most precisely measured nominal dollar deflated by even the most carefully constructed price index. The main issue is the vastly different character of actual consumption between widely separated points in time. For example, purchasing an Internet connection, at any price, would have been impossible, in 1909; and something like a buggy whip has gone from a common tradesman's tool to an item of esoteric taste.

To combine the changing definition of the average consumption bundle, with changing notions of an adequate budget, with a changing level and composition of compensation means that there has been a increase in the measured real cost of a *moderate* standard of living. One avenue to explore toward an explanation is the possibility of using labor hours as the metric, rather than real dollars.

Doing that arithmetic shows that a *fair* level of living for a typical cotton mill worker could be earned in 1909, with about 3,750 hours of labor; and that a median family budget for 1998 could be obtained in exchange for about 2,625 hours of work. Thus, if one can assume that the "fair" level of living in 1909 is no better than the median family budget of 1998, then one could conclude that workers in 1998 were better off. While this may show some improvement across the 90-year span, most of the old questions about comparability remain; and, in fact, new ones are raised. For one thing, the nature of work has changed, and increasing incomes have led to an increased taste for leisure time.

In the end, it is generally true that price indexes and measures of purchasing power are accurate only over short time horizons within which tastes, technologies, and economic structures are relatively homogeneous. Comparisons over longer periods, the interest they generate notwithstanding, will always be subject to noncomparability and misinterpretation, because the assumptions that underlie these comparisons—constancy of tastes and technology are violated.

Year	Type of family budget	Level of living	Budget amount	
			Current $	2000 dollars[1]
1908-09	Cotton mill worker[2] (5 person)	Fair	$ 713	$ 12,402[3]
1919	DC federal worker[2] (5 person)	Health and decency	2,142	21,321
1947	BLS family budget[4] (5 person)	Modest but adequate	3,329	25,706
1947	BLS family budget[4] (4 person)	Modest but adequate	2,904	22,425
1951	BLS family budget[5] "	Modest but adequate	3,750	24,837
1959	BLS family budget[5] "	Modest but adequate	5,180	30,653
1966	BLS family budget[5] "	Moderate/intermediate	7,329	38,952
1973	BLS family budget[6] "	Intermediate	9,781	37,857
1979	BLS family budget[7] "	Intermediate	15,353	36,416
1979	Revised Watts budget[7] "	Median (PFS)	16,129	38,256
1981	BLS family budget[8] "	Intermediate	18,240	34,554
1984	Revised budget[9] "	Median (PFS)	20,531	34,027
1989	Revised budget[10] "	Median (PFS)	27,143	37,694
1994	Revised budget[10] "	Median (PFS)	31,817	36,970
1998	Revised budget[10] "	Median (PFS)	36,528	38,590

[1] Adjusted using the Consumer Price Index for All Urban Consumers (CPI-U), 1982-84 =100.

[2] Adjusted using Consumer Price Index for All Urban Consumers for 1913 and budget data for 1908-09.

[3] Bureau of Labor Statistics, *How American Buying Habits Change* (1959).

[4] Bureau of Labor Statistics, *Workers' Budgets in the United States: City Families and Single Persons*, Bulletin 927 (1947); 4-person budget for median city (St. Louis); 5-person budget calculated using equivalence scale.

[5] U.S. Department of Labor, Bureau of Labor Statistics, *City Worker's Family Budget for a Moderate Living Standard*, Bulletin 1570-1 (1966).

[6] Brackett, Jean, "Urban family budgets updated to autumn 1973," *Monthly Labor Review*, August 1974.

[7] Expert Committee on Family Budget Revisions "New American Family Budget Standards," IRP working paper (1980).

[8] "Family Budgets," *Monthly Labor Review*, July 1981.

[9] Rogers, J. "Estimating Family Budget Standards," unpublished BLS manuscript, 1987.

[10] Calculations using 1989, 1994, and 1998 Consumer Expenditure Survey data and share of total budget spent on family consumption items.

Source: Johnson, David S., John M. Rogers, and Lucilla Tan, "A century of family budgets in the United States," *Monthly Labor Review*, May 2001.

Composition of pay

In early 2000, the average hourly cost of compensation for employers was $21.16, of which 82 percent consisted of wage payments that included paid leave and supplemental pay.[5] The remaining 18 percent comprised hourly costs for non-wage supplements, such as health and life insurance, retirement and savings, and other legally required benefits. As presented earlier, few workers at the turn of the 20th century received any form of nonwage benefits; and, in fact, these nonwage supplements to compensation were coined fringe benefits for most of the century. The word *fringe* connoted that these components of pay were of little substance to the overall pay structure of workers. With nonwage benefits now accounting for nearly one-fifth of average compensation, they are anything but *fringe*.

Measuring changes in components of pay across the 20th century is made difficult by the lack of a comprehensive and consistent series of compensation data. Compensation studies undertaken through most of the century have measured components of pay through the years targeted specific workers, such as mill and manufacturing workers, or worker categories, such as union or white-collar workers. Each of these compensation studies had specific purposes, frequently responding to labor issues of the day.

However, the National Income and Product Accounts (NIPA) of the Bureau of Economic Analysis provided a consistent source of compensation data for the economy as a whole for the better part of the century. The NIPA provides aggregate estimates of both wages and salaries, as well as supplements to wages and salaries. These supplements, in large part, are measures of non-wage benefits, including employer contributions for legally required benefits—such as Social Security and unemployment insurance—and voluntary benefits, such as health and life insurance, private pension plans, and profit-sharing plans. Supplements increased sharply through most of the decades of the 20th century, increasing from 1.4 percent in 1929 (the earliest year in which these data are available) to 17.5 percent by the close of the century.[6]

The remaining sections of this chapter discuss the major economic, political, and demographic influences on compensation during the 20th century. These sections track the growth of new forms and types of compensation. Additionally, these sections track the changes in the Bureau of Labor Statistics compensation studies and the reasons for these changes. The final section explores *future* trends in employee compensation and the data collection challenges these trends might pose.

Pre-World War I reform and economic volatility

At the turn of the 20th century, the United States was about to enter a new era. Most areas of the country had become populated, the frontier had disappeared, and the country was about to become a world power. The United States had survived civil and foreign wars, suffered through recessions and panics, and had seen the formation of a business economy that would eventually produce the highest standard of living on Earth.

A significant feature of the early 1900s was growth in the average size of establishments.[7] This size increase was made possible by, among other factors, the heightened availability of electricity and growth in the size of markets for goods. Larger establishment size tended to provide economies of scale and reduce competition.

Another notable feature of the early 1900s was volatility in business conditions. There were recessions or depressions in 1902-04, 1907-08, and 1910-12, due, in part, to the absence of a mechanism to limit the effect of runs on banks or to control the money supply.[8]

The Federal Government played a pivotal role during this period, helping to usher in a period of reform. The watch words of the day were elimination of corporate abuse, trustbusting, tariff reduction, banking reform, protection of natural resources, creating new sources of government revenues, and improving workers' living and working conditions. Several new laws were enacted: The Hepburn Act of 1906 provided the Interstate Commerce Commission authority to regulate railroads; a pure-food law in 1906 forbade the use of "deleterious drug, chemical or preservative"; the 16th Amendment to the Constitution (1913) authorized the Federal income tax; and the Clayton Antitrust Act of 1914 limited the use of injunctions in labor disputes and provided that picketing and certain other union activities were not to be considered unlawful.

Although some improvements had been made, working conditions were harsh at the beginning of the 20th century. During these early years of the century, pay was low, workweeks were long, business conditions were volatile, competition for jobs (due, in part, to immigration) was intense, and employees were unquestionably subject to the doctrine of employment-at-will.[9] Also, there was little compensation beyond the paycheck. For example, retirement income depended almost exclusively on what one saved during one's working life,[10] and there was no government or employer aid if workers suffered job-related injuries or lost their jobs. The first major social insurance program in the United States—workers' compensation, which compensates workers for injury on the job through exclusive State insurance funds—was adopted first in Washington and Ohio in 1911.[11]

Job insecurity, low pay, and poor working conditions led to labor unrest, as indicated by the growth in union membership and by several major strikes. Trade union membership in the United States[12] rose in the following manner in the early 20th century:

Year	Total membership (thousands)
1900	791
1905	1,918
1909	2,116
1915	2,560

In 1902, miners conducted a 5-month strike against anthracite coal mine operators. Other noteworthy strikes during this period occurred in the textile, iron, railroad, clothing, and mining industries.

Increased Role of the Bureau of Labor (predecessor of the Bureau of Labor Statistics). In such an atmosphere, there was increased demand for "regular and adequate statistical data relating to wages." Around 1890, the Commissioner of the Federal Bureau of Labor (later the Commissioner of the Bureau of Labor Statistics) began to supervise the collection of average rates of pay by occupation, industry, and region and for selected occupations, by city and State. These data were presented in an annual report or in the Labor Bureau's bimonthly bulletin.

During the winter of 1900-01, the Bureau expanded its data-collecting program, launching a study of occupational wages by industry, collecting the average hourly earnings in major occupations in the leading manufacturing and mechanical (such as construction) industries. Published in 1905, as the Commissioner's *Nineteenth Annual Report*, the volume provided data for 1890 to 1903, covering 519 important and distinctive occupations in 3,475 establishments in 67 manufacturing and mechanical industries. These data included actual and relative wages and hours by occupation, relative wages by industry, and relative wages and hours for all industries covered. The report described in detail how data were collected and tabulated. It expressed confidence in the quality of the data, because "...all the field work for this report was carefully done by experienced agents of the Bureau.[13]

After 1907, there was a 4-year lull in the Labor Bureau's wage survey program, due to pressure of other work, such as a special study of wages and working conditions of women and children. A 1912 wage study of cotton goods manufacturing and finishing industries added job descriptions to help ensure that identical occupations were surveyed over time. Also in 1912, the Labor Bureau began studies of union wage scales and hours of work in construction, newspaper printing, and several other industries, with data carried back to 1907.

In 1911-12, the Labor Bureau published a four-volume study of the "condition of employment" in the iron and steel industry, at the request of the U.S. Senate. Agents of the Bureau of Labor visited more than 100 plants throughout the United States, to survey the wages and working conditions in the industry. In 1911, the Labor Bureau published average hourly earnings for *productive* occupations, such as laborers, melters, hammermen, heaters, cinder men, and steel pourers. In 1912, the Labor Bureau reported on the trend of wages from 1900-10 for all classes of laborers working in blast furnaces, Bessemer converters, open-hearth furnaces, blooming mills, bar mills, and rod mills; the data provided the percent of workers in various wage rate ranges at each of these six type of facilities. The report also included hourly rates for common laborers.

Meanwhile, because of the "marked growth

in the application of insurance," the *Twenty Third Annual Report of the Commissioner of Labor* (1908) was devoted to a benefit study, "Workmen's Insurance and Benefit Funds in the United States." This study reported on current workmen's insurance, which protected workers against sickness, accident, death, old age, and other adversity. It involved three general types of insurance funds: Those maintained by or as adjuncts to labor organizations; those found in a common place of employment (usually limited to the employees of a particular establishment); and those maintained by industrial benefit societies, without regard to common employment or affiliation with any particular labor organization. The study analyzed local labor organization benefit funds, railroad relief funds, establishment benefit funds, hospital funds, miscellaneous funds, industrial benefit societies, and State and savings banks' insurance:

> The investigation discloses that nearly all of these funds attempt to accomplish no more than to relieve immediate necessities. The two principal classes of benefits are for death and for temporary disability. The benefit paid on the death of a member usually is no more than enough to pay funeral expenses, although some few societies provide a much more substantial sum.
>
> The temporary disability benefits are generally designed to cover partially the loss of earnings occasioned by an illness of ordinary length or by an accident. In no case is it the purpose to pay a benefit greater than the wages lost. Generally a benefit is not paid for an illness of less than one week; but for loss occasioned by accident, especially if occurring while on duty, benefit is usually paid from the date of injury. Temporary benefits...are limited to a definite period, varying from a few weeks to several months.[14]

World War I and prosperity

The first major attempt at government control of the economy occurred during World War I, as the Nation quickly shifted more than 20 percent of national production to wartime needs.[15] During these hostilities, the War Industries Board determined industrial priorities, fixed prices, and converted plants to meet Federal Government needs. Many government functions that would be taken for granted a half-century later had their origins at this time.[16]

The War Labor Board, established to settle industrial disputes, became the model for a national system of labor-management relations in the 1930s. For the emergency period during the War, union representatives on that board won the right of workers to join unions and not be discharged for union activity.[17] The U.S. Housing Corporation built housing for defense personnel, beginning the Federal involvement in the Nation's housing market. The U.S. Railroad Commission took control of the Nation's railroads. The Food Administration and Fuel Administration coordinated food and fuel distributions, respectively.[18]

Trade union membership almost doubled from 1915 to 1920—years of war and postwar economic boom. During this time, the Federal Government, for the first time, treated the labor movement as a legitimate representative group.[19] From a high point of 5 million members in 1920, however, there was an almost continual decline in union membership until the bottom was reached in 1933.[20] After major strikes in 1921-23 (including an unsuccessful attempt to organize the steel industry), trade unions were unable to exercise direct pressure on employers for almost a decade, until the passage of the Wagner Act in 1935, which promoted unionization and collective bargaining.[21]

As had been the case earlier, the compensation studies conducted by the Bureau of Labor Statistics during World War I were authorized by Congress, to address specific needs. The War Industries Board had been created to increase production, mobilize the labor force, maintain peaceful labor-management relations, and stabilize prices and wages. At this time, the Bureau worked closely with the War Board's Central Bureau of Planning and Statistics.[22] In addition, wartime demands from various other agencies for information on wages and hours, strikes and lockouts, and labor placed additional requirements on the Bureau.

Not until the war was nearly over in late 1918, however, was funding allocated for the Bureau to undertake wage surveys for use in the solution of labor problems in a number of industries and to provide a record of industrial conditions at the height of the war effort.[23]

Continuing to use procedures begun in 1913, agents specialized in certain industries and became "...more familiar with the nature of the work in the various occupations."[24] The Bureau's regular, pre-war program had included only 10 industries surveyed at 2-year intervals. In May 1920, results of wages and hours surveys during 1918 and 1919 were published for fully 780 occupations in 28 industries.[25]

In what today might be called a vision statement, the work of the BLS was outlined in 1927: "Primarily the Bureau of Labor Statistics is a fact-finding agency. Its duty as set forth in the act creating it is to 'collect information upon the subject of labor * * * and the means of promoting the material, social, intellectual, and moral prosperity' of the wage earners of this country. The function of the bureau is thus somewhat broader than is what is commonly understood by the word *statistics*. Its field of work not only covers purely statistical data, but also includes other subjects of vital human welfare, such as accident prevention, housing, labor legislation, and social insurance in all its phases."[26]

The 1920s were not always favorable for this vision, as public attitudes and policies encouraged business interests.[27] The Bureau found little opportunity to expand or improve its work during this period,[28] although it did expand coverage of industry wage studies into 20th century manufacturing industries and expanded into newly emerging compensation practices, such as bonus systems and pay for overtime, Sunday, and holidays.[29] Although surveys were confined to manual jobs and largely selected jobs in the manufacturing sector, these surveys provided a reasonably consistent body of data on both the structure and trend of wages for industrial workers.[30]

During this retrenchment period, the Bureau was able to continue one of its oldest programs, union scales of wages and hours of labor, which dated back to the late nineteenth century. Data were collected for occupations in five industries—bakeries, building trades, marble and stone trades, metal trades, and printing—for localities throughout the country. As an example, wages and hours from 1913 to 1925 in Chicago for several trades are summarized in table 1.[31]

The Bureau also undertook various studies of workmen's compensation, legal aid, and social insurance programs, often in reaction to changes in the law. For example, following the passage of amendments to the Federal retirement system in 1926, the Bureau conducted a survey of 46 State and municipal pension plans, publishing the results by 1929, along with information on public retirement systems in Canada and Europe.[32] The cost of benefits, however, was still a very small part of a worker's compensation package, accounting for less than three percent of the employer's cost for employee compensation.[33]

An early example of one of the Bureau's studies of retirement systems was data published on a retirement plan for employees of the State of New Jersey. This retirement system for these employees was created in March 1921, with contributions starting in January 1922 and pensions first being paid in July 1922. Membership was optional for current employees but mandatory for all new employees. Contributions from the State and employees were "sufficient to secure upon retirement at age 60 an annuity amounting to 1/140 of their final average compensation for each year of service rendered." For example, an employee retiring after 35 years of service would be entitled to an annuity valued at one-quarter (35 X 1/140) of the final average compensation. Retirement was optional at age 60 and compulsory at 70.

In 1926, the Bureau conducted a comprehensive study of workers' compensation. At that time, all but five States had enacted workers' compensation laws to protect workers from losses resulting from injuries on the job. Nearly all these States had passed their initial legislation by 1919 and had subsequently expanded the scope of the acts, increased the amount of benefits, and reduced the amount of time before receiving benefits.[34] Benefits in these States[35] covered fatal—as well as nonfatal—injuries and medical and surgical benefits. In most States, compensation benefits were based on a percentage of average wages, ranging from one-half of average wages in 16 States to two-thirds of average earnings in 12 States. Maximum payments ranged from $3,000 to $7,800 for death and from $3,000 to $10,000 for permanent total disability.[36]

The Bureau also conducted another survey in 1926,[37] following up on an earlier survey of the existence of "industrial establishments offering insurance to their employees under the

group plan."[37] "After 1916, the amounts of group insurance being written increased very rapidly ... In the earlier study only 32 of the companies had inaugurated a group insurance plan, while in the present study 186 companies with 672,468 employees were found to have such a plan in effect."[38] "The earlier group life insurance policies provided for payment of a lump sum in case of death, the amount of the insurance usually ranging from $200 to $1,000 and frequently increasing with each year of service." In 1922-3, group accident and sickness policies were first written as added features of many group life-insurance policies and the "...contributory features became even more marked. In many establishments the employer arranged for combination group life, sickness and accident insurance, part of the premium to be paid for by the worker, while in other cases the employer paid for the life insurance and the employee paid for the sickness and accident insurance."[39] The usual minimum life insurance benefit was $500, with many plans varying by an employee's annual salary and length of service.[40] Sickness and accident insurance provided benefits for non-occupational injuries, usually "for periods of 13 weeks, 26 weeks, or occasionally 52 weeks," with benefits being paid according to salary class.[41]

The Great Depression and the Federal role in the economy

The Great Depression, a long and severe period of economic decline, affected the United States and the entire industrialized world. The American stock market declined by nearly 90 percent from 1929 to 1932, ruining individual investors and financial institutions. Many banks and other businesses were forced into insolvency. The resultant sharp declines in consumer demand and capital investment led to greatly reduced levels of spending, production, and gross national product (GNP).

From an estimated annual rate of 3.3 percent during 1923-29, the unemployment rate rose to a peak of about 25 percent in 1933. The economy reached its trough in 1933; but although unemployment had reached its peak, economic recovery was slow, hesitant, and far from complete. As shown below, the unemployment rate was still nearly 15 percent in 1940: [43]

Year	*Unemployment rate*
1923-29	3.3
1930	8.9
1931	15.9
1932	23.6
1933	24.9
1934	21.7
1935	20.1
1936	17.0
1937	14.3
1938	19.0
1939	17.2
1940	14.6
1941	9.9
1942	4.7

In March 1933, Franklin D. Roosevelt was inaugurated President and initiated a series of aggressive measures, collectively known as the New Deal, in an attempt to revive the economy from the Depression. New Deal legislation brought unprecedented Federal Government involvement to the economy.

The Great Depression also resulted in the unprecedented involvement of the Federal Government in labor-management relations. The passage of the National Labor Relations Act (Wagner Act) of 1935 guaranteed the rights of workers to join labor unions and to bargain collectively with their employers. The impact of unionization on the wages and benefits of blue-collar workers in important manufacturing industries also spilled over into nonunion workerplaces and industries. Union membership rates, which had been about 1 in 8 workers in the early 1930s, doubled to more than 1 in 4 workers in 1940:

Year	*Union membership rate*[44]
1930	2.3
1935	13.8
1940	27.6

Industrial workers in the mass-production industries–steel, automobiles, rubber, and electrical equipment–were organized during this time. In 1935, eight industrial unions formed the Committee for Industrial Organization within the American Federation of Labor (AFL), which was dominated by the craft unions. Three years later the CIO split completely from the AFL and became a separate entity, the Congress of Industrial Organizations (CIO).

In addition to becoming involved in labor-management relations, the Federal Government became involved in establishing wage standards at this time. For example, the passage of the Davis-Bacon Act of 1931 created the establishment of wage standards for worker employed by contractors or subcontractors employed on construction projects financed by the Federal Government. A second piece of legislation, the Walsh-Healey Act of 1936, established a prevailing wage for workers employed by firms providing materials and supplies to the Federal Government. Finally, the Fair Labor Standards Act of 1938 established a minimum wage ($.25 per hour)[46] for most workers involved in producing goods for interstate commerce.

The Great Depression also brought a different approach to viewing economic security. Americans became aware that individuals were not always able to provide for their own security in a modern industrial society. Before 1934, workers' compensation was typically the only help available to workers.[47] Workers had no protection against loss of income for any cause other than industrial accident, except their own savings, organized charity, and local relief agencies.[48] Surprisingly, there was little support for social insurance programs other than workers' compensation before 1930. In 1931, for instance, a national AFL convention refused to endorse unemployment insurance legislation.[49]

The roots of the New Deal had been planted during early debates about compulsory State insurance and workers' compensation.[50] But it wasn't until the devastating economic disaster of the 1930s that most Americans became convinced of the necessity of a permanent national plan for coping with severe losses in income.[51] Subsequently, Congress passed the Social Security Act of 1935, which provided two social insurance programs–a Federal system of old-age benefits for retired workers and a Federal-State system of unemployment insurance. The Social Security Act also established a series of Federal grants to the States for additional old-age assistance, aid to the blind, and aid to dependent children.[52]

In addition to providing compensation for lost income, the passage of the Social Security Act and the Wagner Act in 1935 signaled the beginning of the concept of compensation as more than just traditional straight-time pay for time worked. Unions began to deviate significantly beyond the traditional scope of collective bargaining–wages, hours, and working conditions–and began to negotiate compensation packages that would give workers more and better welfare plans than were provided by legally required plans.[53] Consequently, supplements to wage and salaries, including legally required benefits and private health and welfare plans, although still accounting for less than that 4 percent of compensation costs in 1939, had more than doubled in value in the previous 10 years.

Between 1932 and the end of the decade, the Bureau's wage survey activity was primarily geared to the information needs of the new Federal agencies created by the New Deal; and the Bureau expanded, with a doubling of staff and budget between 1934 and 1941.[55] In place of the periodic study of major industries, the Bureau studies of minimum wage and maximum hour provisions were needed for industries to meet the "codes of fair competition" required by the National Industrial Recovery Act (NIRA) of 1933. Major comprehensive studies, including information on working conditions—as well as wages—covered a diverse set of industries and occupations.[56] Several studies were also undertaken in cooperation with the Works Progress Administration (WPA), as well as surveys done in connection with the Walsh-Healey Act that covered work performed by Federal government contractors.[57]

Because of the need for data for minimum wage determinations under the Fair Labor Stanards Act of 1938, which initially provided for a minimum wage by industry, the Bureau conducted about 45 industry wage surveys during 1938 and 1939.[58] Most of these studies provided data on the distribution of workers in low-wage industries by straight-time hourly earnings, without occupational detail.[59]

One example of the studies conducted by BLS for the NIRA was the survey in March 1935 of the manufacture of cigarettes and tobacco products industry.[60] This survey covered approximately 38,000 workers in 48 plants. A summary of the article concerning the survey found, "Most of the plants used both piece- and time-rate methods of wage payments. A noteworthy improvement in weekly hours and payment of higher rates for overtime was found in 1935, as compared with the situation existing prior to the National

Industrial Recovery Act."[61] Paid holidays and vacations were generally limited to salaried workers, and pay for lost time due to sickness was rarely provided by a formal plan. Insurance benefits were limited. "A number of the companies, especially the large ones, had welfare programs covering one or more of such measures as medical care, group insurance of various kinds, thrift clubs, and lunch rooms. Approximately half of the employees were, by such programs, provided access to medical services beyond first-aid attention."[62]

Another example is a survey conducted with the WPA of the building construction industry in the fall of 1936 for information on prevailing wage rates. Information was gathered from over 6,000 contractors involved in more than 13,000 projects in 105 cities across the country.[63] Average earnings for the 186,145 workers were $.918 per hour. Earnings for electricians, bricklayers, and structural ironworkers averaged more than $1.30 per hour. Laborers earned $.516 per hour. Earnings for union workers were significantly higher in comparable trades than for their nonunion counterparts. For example, union electricians earned nearly 60 percent more per hour than their nonunion counterparts.[64]

One of the rapidly growing benefits during the 1930s was paid vacations to employees. In 1937, a BLS survey of 90,000 firms found that approximately 95 percent of the 700,000 salaried workers received annual vacations with pay, compared with 36.7 percent of the 9.5 million wage earners.[65]

For salaried workers, most paid vacation plans were initiated between 1920 and 1930. Vacations were practically all for either a 1- or 2-week period, with 2 weeks reported for 57 percent and 1-week plans for 37 percent of salaried workers.[66] The usual length of service to be eligible for a vacation was 1 year, reported for 80 percent of the plans. For graduated plans, the 1-week minimum and 2-week maximum vacation was almost universal.[67]

For wage earners, survey results indicated approximately 70 percent of plants with a paid vacation plan for wage earners said they initiated it during the 1930-37 period; and about 40 percent gave vacations for the first time in 1937.[68] Wage earners were typically eligible for a vacation after 1 year of service, although 40 percent required 2 years'; and 20 percent required 5 years' or more service.[69]

World War II and the transition to a peacetime economy

Following the bombing of Pearl Harbor in December 1941 and the ensuing entry of the United States into World War II, the Federal Government mobilized its resources and the country's industrial might. On January 6, 1942, President Roosevelt announced ambitious wartime production goals. In response, all the country's economic sectors came under new or increased Government controls.

The Federal Government created a number of agencies, such as the War Production Board (1942), the Office of War Mobilization (1943), and the Office of Price Administration (1942), to increase total production, reallocate production to military uses, and control wages and prices. Increases in military output were obtained, in part, by diverting resources from current uses, particularly for the production of consumer goods. Manufacture of consumer items—such as automobiles, refrigerators, and housing materials—was forbidden.

Controlling output proved easier than controlling wages. Inflationary pressures were created by the shortages of both goods and labor that developed during World War II; subsequently, the Consumer Price Index (CPI) increased by more than 35 percent at this time. Several attempts were made to create an effective organization to control wages and limit work stoppages. In 1941, President Roosevelt created, by executive order, the National Defense Mediation Board. The Board had jurisdiction over cases referred to it by the Secretary of Labor and was given authority to settle disputes by conciliation, voluntary arbitration, and public recommendations. However, the Board ceased to be useful when the CIO members withdrew in November 1941.

The National War Labor Board was created by President Roosevelt, by executive order on January 12, 1942. The Board was established to determine procedures for settling disputes that might affect war production. The Board had the options of offering mediation, voluntary arbitration, and compulsory arbitration to try to resolve controversies but had no power to enforce its decisions. It was also authorized to approve all wage increases, where the total annual remuneration was below $5,000. The Board quickly adopted the so-called *Little Steel* formula for wartime wage changes, i.e., based on a 15-percent rise in living costs from

January 1, 1941, to May 1, 1942. In September 1942, the President was given the authority to stabilize wages and salaries, based on September 15, 1942 levels.

As a result of wage restrictions, employ-ers who needed to attract labor resorted to providing a growing range of fringe benefits, such as pensions, medical insurance, and paid holidays and vacations. These benefits were considered non-inflationary, as they were *not* paid in cash and, thus, did not violate the wage ceiling. Additionally, payments for overtime afforded extra income to workers, without violating the limits on hourly wage payments. During the late 1940s, fringe benefits became more common as part of settlements reached in collective bargaining.

On June 25, 1943, Congress passed the War Labor Disputes (Smith-Connally) Act that authorized the President to take over plants needed for the war effort or in which war production had ceased because of a labor dispute. These sanctions were effective against management but were not as effective against labor. Although strikes were prohibited during the War, they did occur.

Year	Number of		
	Work stoppages	Days of idleness (thousands)	Union members (thousands)
1940	2,508	6,700	8,717
1941	4,288	23,000	10,201
1942	2,968	4,180	10,380
1943	3,752	13,500	10,213
1944	4,956	8,720	14,146
1945	4,750	38,000	14,322
1946	4,985	16,000	14,395
1947	3,695	34,600	14,787
1948	3,419	34,100	14,319
1949	3,606	50,500	14,282

Despite efforts of the National War Labor Board, the shortage of labor during World War II caused sharp increases in wages. Average hourly earnings of production and nonsupervisory workers in manufacturing more the doubled between 1940 and 1949, with the largest increases during the war years, 1940-44. Hours worked also rose during the War, with average weekly hours for production and nonsupervisory workers rising from 38.1 in 1940 to a high of 45.2 in 1944. After the War, hours worked declined to 39.1 in 1949, slightly above the average for 1940.

After World War II, the Federal Government continued to directly affect the welfare and economic conditions of the American workforce. In 1946, Congress passed the Employment Act, which committed the Federal government to take all practical measures to promote maximum employment, production, and purchasing power. In 1949, Congress amended the Fair Labor Standards Act of 1938 to directly prohibit child labor for the first time. Additionally, two Supreme Court cases (*Inland Steel v. United Steelworkers of America* and *W.W. Cross & Co. v. N.L.R.B.*) issued after the war, in effect, required employers to bargain over retirement and health insurance plans.

Meanwhile, the transition to a peacetime economy was complicated by a number of problems, including providing economic opportunity for both returning servicemen and the current workforce. One priority was to assist returning servicemen in getting housing and education; thus, the GI Bill, for example, guaranteed loans for housing and education assistance. Another priority was to maintain industrial peace while transitioning from a wartime economy to a peacetime economy. This was difficult; labor unrest ensued, because of pent up frustration and job losses.

During the immediate postwar period, consumer goods, which were not available during the War, became in great demand. People had worked steadily during the war, often at overtime rates, and had money to spend. Demand for consumer items such as automobiles was high, so manufacturers had trouble filling orders. At the same time, union members, whose wages had been restrained during the war, demanded increases in the immediate postwar period. The result was a wave of strikes precisely when the public was anxious to see more consumer goods in stores and showrooms.

Congress reacted to the wave of strikes in 1946-47 by passing, the Labor-Management Relations (Taft-Hartley) Act in 1947. This act was seen by its sponsors as a way to redress the balance between labor and management that had been altered by the Wagner Act. Among its major provisions, the Taft-Hartley Act authorized Presidential injunctions against strikes, if the national interest was involved; banned secondary boycotts and the closed shop; and allowed States to pass *right-to-work* laws.

The coming of World War II changed the statistical needs of government, and BLS responded by changing the focus of its programs.[70] A cut in funding in 1947 also forced the Bureau to reexamine its wage program.

Prior to the War, the primary use of industry wage surveys was to monitor low-wage industries. Data from these surveys were used to determine minimum and prevailing wages required by such laws as the National Industrial Recovery Act of 1933, the Walsh-Healy Act of 1936, and the Fair Labor Standards Act of 1938. After the beginning of World War II, the needs of Federal Government statistical users had shifted to the settlement of labor disputes and stabilization of pay rates. The types of industries surveyed shifted from low-wage consumer goods industries to heavy manufacturing industries vital to the War effort. Among the industries surveyed during this period were shipbuilding; aircraft; rubber; nonelectrical machinery; and the mining, smelting, and refining of nonferrous metals. The National War Labor Board became the most important user of wage surveys. The Bureau provided data on wage rates and straight-time earnings by occupation, industry, and area, as well as a general wage rate index, to measure the effectiveness of the wage stabilization program. The Board used these data for decisions on claims for wage increases on inequity grounds and for the settlement of disputes.

Because of the importance of organized labor in the national economy, the Bureau, in 1948, first published its monthly *Current Wage Developments* (*CWD*) reports, and its wage chronology series.[71] The *CWD* reported on the wage adjustments that occurred in collective bargaining situations. Besides identifying the company, union, and location of the bargaining unit, the report listed the amount of the adjustment; the effective date of the adjustment; the number of workers covered by the adjustment; and other related terms, such as information on vacations, paid holidays, and company payments to health and welfare funds. Wage chronologies were a series of reports on the negotiated changes in wages and benefits for individual, key bargaining situations, such as General Motors, United States Steel, The Boeing Company, and the bituminous coal mine operators. Although a wage chronology for any one bargaining situation was published only periodically, it would summarize the bargaining history between the company and the union, detailing the wage and benefit changes coming from the parties' various rounds of negotiations.

The Korean War to beyond the Great Society

The 1950s and 1960s saw the Korean War, the Cold War, the race for space between the United States and the Soviet Union, the Vietnam War, the New Frontier, and the Great Society. Television became a mainstay of family entertainment, there was a movement to the suburbs, college education and home ownership became common, and the civil rights and women's rights' movements became powerful forces in society.

The decades of the 1950s and 1960s were generally periods of relative economic prosperity, with growth in employment and real wages, although three recessions occurred (1954, 1958, and 1961). This period saw many shifts in the economy, as the service sector grew relative to manufacturing; and employment shifted among occupations, as a result of the shifts among industries. The percentage of the total number of employed persons who worked in white-collar and service occupations increased during the period, while the percentage employed in manual occupations and as farm workers declined.

Another shift was that women became a more important factor in the workforce than during the postwar years. Women represented about 29 percent of individuals in the labor force in 1950 but had grown to more than 36 percent by 1969.

Married women, in particular, remained in the labor force in record numbers. By 1969, almost 40 percent were in the labor force, up from less than 25 percent 20 years earlier. While these rates were lower than for single women, the difference in labor force participation rates for married and single woman narrowed during this period.

Unemployment was relatively stable during the 1950s and 1960s, usually between 3 and 4.5 percent. The rate did exceed 5 percent during the recession years 1954, 1958, and 1961 and during the years of recovery immediately following the downturns. Conversely, unemployment was particularly low between 1951-53 and 1966-69. These periods coincided with undeclared wars in Korea and

Vietnam and saw large increases in defense spending and significant segments of the civilian labor force drawn into military service.

During this time, Federal legislation continued to shape the American workplace: the Social Security Act was amended to include Medicare in 1965 and the FLSA was amended in 1961 and 1966 to extended coverage to millions of additional workers. In addition, the Welfare and Pension Plans Disclosure Act of 1958, the Labor-Management Reporting and Disclosure (Landrum-Griffin) Act of 1959, the Manpower Development and Training Act of 1962, the Equal Employment Act of 1963, the Civil Rights Act of 1964, and the Age Discrimination Act of 1968 were passed by Congress. (See box on labor-related legislation.)

More than 20 years of internecine labor strife ended in 1955, with the merger of the American Federation of Labor and the Congress of Industrial Organizations to become the AFL-CIO. Unions in this merged organization agreed to honor the existing agreement of other member unions and to refrain from stealing members from one another. The new organization claimed about 15 million members.

In the 1950s and 1960s, the Bureau of Labor Statistics continued to gear its compensation surveys to the informational needs of the Federal Government, including the administration of prevailing wage and minimum wage laws. There also developed during this time period, an interest in comparing Federal and non-Federal compensation. This administrative need for data would shape many of the Bureau's compensation programs throughout the remainder of the 20th century. In conjunction with the need for data to administer Federal pay programs, the Bureau began to expand its compensation studies to include fringe or supplementary benefits. These new surveys would lay the groundwork for the Bureau's future benefit studies.[72]

The Bureau continued to publish its wage chronologies and *Current Wage Developments*. As an outgrowth of the wage development program, beginning in 1954, BLS published quarterly and annual summaries of newly negotiated wage rate changes—medians and means, for the first year and over the life, of contracts for production workers in manufacturing and non-supervisory workers in service industries.

By the mid-1960s, the Bureau developed procedures for costing supplementary benefits. This enabled the publication of data for the total change in compensation for units of 10,000 workers or more; and, in 1966, the publication of such data on settlements covering 5,000 or more workers. In 1968, the Bureau developed its *effective series*—wage changes in effect from settlements, cost-of-living adjustments, and deferred wage increases.

In the early 1950s, the Bureau also began publishing salary trends for selected groups of government employees. The first report was for white-collar workers for 1939-50, followed by city public school teachers for 1925-49 and firemen and policemen for 1924-50. These studies would provide BLS with the experience and foundation for conducting future, more comprehensive white-collar pay studies.

Also in the early 1950s, the Wage Stabilization Board (WSB) once again sought to control wage increases during the Korean War. WSB budgetary support allowed BLS to conduct a large number of labor market community wage studies for use in the Board's decisions, with occupational coverage extended to jobs particular to major industries in each area surveyed. Coupled with other BLS data, these studies provided the basis for a series of analyses of inter-area differences in wage levels, occupational wage differentials, fringe benefits, union density, and wage structure.

By the end of the 1950s, in response to demands for a cross-industry survey, BLS began to expand the community wage surveys to 80 metropolitan statistical areas that had been selected to represent all such labor markets. This program expansion would allow the Bureau to make estimates of the level and distribution of wages for a large number of white-collar and manual jobs in all metropolitan areas. It also provided the basis for national estimates of scheduled hours of work, holiday and vacation provisions, the incidence of private pension and insurance plans, and collective bargaining coverage. One reason for this expansion was the Federal Government's need for national data on white-collar salaries in private industry to implement a comparative pay policy for Federal white-collar and postal employees.

In response to the enactment of the Service Contract Act (SCA) in 1965, area wage surveys were expanded in 1967 to include areas requested by the Employment Standards Administration (ESA) for their administration of

the act. (The SCA requires employers to pay prevailing wages and benefits to employees performing work on Federal service contracts.)

BLS also continued to produce occupational wage studies on an industry basis but shifted the emphasis away from industry-wide surveys to surveys of major areas of industrial concentration. These annual studies covered wages and related benefits in 25 manufacturing and non-manufacturing industries.

During the 1950s, BLS conducted several wage surveys for ESA for use in the agency's appraisal of minimum wage action under the Fair Labor Standards Act, and for a basis of decisions on minimum wage policy. The studies continued into the 1960s, with minimum wage coverage being extended to several new industries, including retail trade and service industries.

The major changes in the composition of compensation that began in the 1940s forced BLS to collect and analyze supplementary wage benefits to make Bureau compensation data more meaningful. After limited studies in the early and mid-1950s, BLS began a program to measure these benefits. In 1951, for the first time, BLS captured the costs of supplementary wage benefits in a wage study in the basic iron and steel industry. Data included direct benefits, such as pay for overtime and work on holidays and late shift, pay for holidays not worked and vacation, sick leave, severance pay, and non-production bonuses; and indirect benefits, including legally required ones and voluntary insurance and retirement pension plans. Survey results were for production workers only and were expressed in terms of cents-per-man-hour.

In 1953, BLS conducted a feasibility study of collecting employer expenditures on selected supplementary employee remuneration in the manufacturing industries. The Bureau collected data on seven items—paid vacations; paid holidays; paid sick leave; premium pay for overtime; pension plans; insurance, health, and welfare plans; and legally required payments. Three basic measures of employee expenditures were used—percent of payroll, cents per hour, and cents per hour worked.

In 1955, BLS began regularly publishing two new reports—the "Digest of Selected Pension Plans" and the "Digest of Selected Health and Insurance Plans." Some of the plan features discussed in the pension plan digest included benefit formulas, normal retirement requirements, early retirement requirement and reductions, and disability benefits. Some of the plan features in the health digest included life insurance, accidental death, and dismemberment benefits, sick leave, hospital benefits, maternity benefits, surgical and medical benefits, and major medical benefits.

In 1959, BLS published the *Employer Expenditure for Selected Supplementary Remuneration Practices for Production Workers in Manufacturing Industries, 1959*. This publication ushered in a full scale, continuous program of compensation studies. Expenditures for production workers in manufacturing were published for a select list of items—including some new or growing practices, such as supplementary unemployment benefits and civic and personal leave—and were measured as cents-per-hour paid for and per plant man-hour, as well as one new measure—straight-time payroll. In 1960, a similar study was conducted in the mining industry; in 1961, finance, insurance, and real estate were surveyed; and in 1962, there was a study in manufacturing.

In 1963, another expansion of the program came, when a special study was conducted at the behest of the Federal government on supplementary remuneration in private industry for Federal white-collar and postal employees' pay comparability purposes. The survey marked a broadening of industry coverage to include manufacturing; transportation and utilities; trade; finance, real estate, and insurance; and a limited number of service industries. Employee coverage was limited to clerical, professional, administrative, and technical employees.

Sparked by Federal pay comparability questions, BLS conducted an initial survey of compensation expenditures for the entire private nonfarm economy in 1966. This was the first of surveys designed to study the entire private nonfarm sector, selecting manufacturing and non-manufacturing industries in alternate years. Surveys for the entire private nonfarm economy were produced in 1968, 1970, 1972, 1974, and 1977. This program was dropped after 1977, when the Bureau began collecting benefit cost data in the Employment Cost Index.

Inflation, recession, and high unemployment

For many, the 1970s was a decade of pessimism. It opened with of a recession in 1970 and the painful ending of the Vietnam War.

Memories of the Great Depression made policy makers unwilling to use restrictive monetary and fiscal policy to contain inflation, because it was felt that the associated increase in unemployment would be unacceptable.[73] Instead, wage and price controls were introduced in August 1971.[74] An oil embargo, in 1973, brought on by the Organization of the Petroleum Exporting Countries (OPEC), led to rapid inflation and a recession; and there was another round of disruptions to the oil supply in 1979.

Both the civilian unemployment rate and the rate of change in consumer prices deteriorated in the second half of the decade. Between 1970-74, the average annual unemployment rate was 5.4 percent, while the average annual change in the Consumer Price Index (CPI) was 6.6 percent. From 1974-79, the figures edged up to 7.9 percent for unemployment and 8.1 percent for the CPI.

This decade was also marked by a number of large, highly publicized labor disputes. For example, in 1970, almost 210,000 postal employees walked off their jobs—the first mass work stoppage in the history of the U.S. Postal Service. In the same year, four railroad unions conducted a 1-day nationwide railroad strike. In 1971, two longshore strikes closed all major ports on the East, Gulf, and West Coasts; West Coast longshore workers resumed their strike after an emergency dispute injunction temporarily halted the walkout. In 1975, 80,000 employees of Pennsylvania conducted the first legal strike by State workers. In 1977-78, miners conducted one of the longest strikes in the coal industry. The decade ended with a 10-day nationwide strike by 219,400 over-the-road and local truckers in April 1979.

Compensation component	1966	1970	1977	1986
Total compensation	100.0	100.0	100.0	100.0
Wages and salaries	80.4	79.8	74.8	73.0
Total benefits	19.6	20.2	25.2	27.0
Paid leve	5.9	6.2	6.9	8.0
Supplement pay	3.8	3.1	3.1	2.3
Insurance	2.0	2.6	4.0	5.5
Retirement and saving	5.2	5.0	4.3	3.8
Legally required	2.6	3.3	4.3	6.4
Other benefits	0.1	-	-	0.1

NOTE: Data for 1966-77 were obtained from the Employers Expenditures for Employee Compensation survey and related to the average for the entire year. Data for the other years are from the Employer Costs for Employee Compensation survey and relate to March. While the data from the two surveys are not entirely comparable, they are similar.

Through the tumult, there was a continued change in the relative importance of benefit costs as a percent of compensation, rising from about a fifth of total compensation in 1970 to more than a quarter in 1986. Every measured benefit—the relatively small "supplemental pay"excepted—increased as a share of the compensation package.

During the 1970s, there were some important legislative and legal changes affecting compensation and workplace issues. Among the most important were the Employee Retirement Income Security Act of 1974 (ERISA) and the Revenue Act of 1978. ERISA regulated private pensions and imposed financial and accounting controls where pensions existed. ERISA also established the Pension Benefit Guaranty Corporation, to ensure that workers would be paid their vested pension benefits, if their pension plans were terminated. The Revenue Act encouraged flexible benefit plans, and created the 401(k) defined contribution retirement savings plan. It also allowed employees to make elective pre-tax contributions to a variety of savings vehicles, such as saving, profit sharing, and employee stock ownership plans. In retrospect, these laws were extremely important, as they contributed to the change in the share of compensation accounted for by pensions and other retirement benefits.

Other important legislation that affected active and retired workers without necessarily affecting compensation directly included the Occupational Safety and Health Act of 1970, which authorized the Secretary of Labor to establish occupational safety and health standards in the workplace; the Comprehensive Employment Training Act of 1973, which consolidated and decentralized Federal employment programs and provided funds to State and local governments who sponsored employment services; and the 1974 amendment to the Social Security Act, which provides automatic cost-of-living adjustments, based on the Bureau's Consumer Price Index.

Implementation of wage and price controls showed a need for a comprehensive measure of labor cost changes that was not affected by factors such as changes in overtime hours or shifts in employment among industries and occupations.[75] As a result, the Employment Cost Index (ECI) was born. The ECI was designed to:

- Be a timely and comprehensive measure covering all elements of employee compensation (wages, salaries, and benefit costs) and all employees in the U.S. civilian economy.
- Be a fixed-weight index free from the influence of employment shifts among occupations, industries, and establishments with different wage and compensation levels.
- Include internally consistent subseries (for example, occupational and industry groups) that describe the forces contributing to aggregate wage and compensation change.

The ECI, first published for the period September-December 1975, initially covered wage and salary changes for the private nonfarm economy. Changes for broad occupational and industrial groups, as well as changes by union status, geographic region, and area size were also presented. Although only a few new ECI series were added in the latter half of the 1970s, work was done to make possible publication of indexes for benefit costs and total compensation and to include State and local government workers.

In 1973, the General Accounting Office (GAO) had issued a report on the Bureau's white-collar pay survey—the Professional, Administrative, Technical, and Clerical survey (PATC)—emphasizing the need to expand the coverage of the survey. In the mid-1970s, the Bureau took action on GAO recommendations to improve the PATC survey, by expanding occupational coverage from 72 occupational work levels in 1975 to 100 in 1982. During the 1970s, BLS also developed a comprehensive training program, instituted a new quality measurement program, and conducted additional research to review and improve occupational definitions used in the survey.

In the late 1970s, at the request of the U.S. Civil Service Commission (now the Office of Personnel Management), the Bureau began gathering data on employee benefit plan provisions. The program, first called the Level of Benefits survey (LOB) and then the Employee Benefits Survey (EBS), was designed to provide information necessary for the Federal pay comparability process established by the Federal Reform Act of 1962 and later by the Federal Pay Comparability Act of 1970. Combining the LOB data with white-collar pay data was designed to help the Office of Personal Management compare compensation of Federal and private sector employees.

In 1979, a test survey was conducted in conjunction with the Bureau's collection of white-collar salary data that had the same industry and size-of-establishment restrictions. The test collected data for full-time workers on plan provisions and participation for six paid leave items, including sick, holiday, and vacation pay; health, life, and disability insurance; and pension plans.

During the 1970s, the Bureau continued to enhance its Industry Wage (IWS), Area Wage (AWS), and Service Contract Act (SCA) surveys—the latter to help ESA administer the SCA. The Bureau produced about 50 manufacturing and 20 nonmanufacturing industry wage surveys on a regularly recurring basic, and, in 1972, improved its AWS surveys by publishing indexes that used matched establishments. The SCA surveys, essentially the same as AWS surveys—except they were funded by the Employment Standards Administration (ESA) to fulfill its responsibilities under the Service Contract Act—were expanded from 65 in 1974 to 150 in 1977.

During the mid- to late-1970s, the Bureau also conducted surveys of industries and occupations that were exempt from FLSA minimum wage and overtime coverage. The ESA used survey results as part of a process to determine whether or not to continue these exemptions.

Reflecting a need for programmatic improvements in its major collective bargaining settlements program, the Bureau made a number of changes in the data elements it collected and published for that program series. BLS began publishing a separate series for the construction industry, covering settlements for 1,000 workers or more. This new series provided two types of data on wage-benefit changes. One showed the annual rates of scheduled increases over the life of the agreement; the other showed the first-year increase. Another enhancement in the program came in 1974, with publication of quarterly effective wage adjustments. Additionally, in 1979, a biannual series showing changes in the cost of bargaining settlements covering 5,000 workers or more in State and local governments was introduced.

An economy in transition

The 1980s began on an uncertain note, with worries about the country's ability to compete

in world markets and fears that high inflation rates would never end.[76] From 1980-82, the unemployment rate jumped from 7.1 to 9.7 percent but then dropped from year to year, to 5.3 percent in 1989. The 1982-83 recession, however, did seem to curb inflation, as the Consumer Price Index dropped from an annual change of 13.3 percent in 1979 to 3.8 percent in 1982. By 1984, the economy had rebounded, and there ensued a long period of sustained growth. Millions of new jobs were created, and there was a resurgence of American confidence.

During this decade, a number of forces worked to limit the influence of labor unions. Foreign competition grew in industries where unionism historically has been strong—especially the automobile and steel industries.[77] Additionally, employment growth had occurred in sectors—such as in services—where unions had typically not been dominant. As a result of these and other factors, trade union membership in the United States declined sharply as a share of employment:

Year	*Total membership (thousands)*	*Union density*
1980	22,377	24.7
1985	16,996	18.0
1990	16,740	16.1

The trend toward benefits accounting for a higher proportion of compensation costs continued, though at a slower pace than earlier. The slowdown in the growth of benefits as a proportion of compensation can be attributed primarily to health insurance and employers retirement costs. Over-the-year increases in health costs peaked at 23.5 percent in March 1983, dropped to 3.5 percent in June 1985, then rose to about 13 percent in 1989. Employers introduced a number of cost containment arrangements, including shifting more of health insurance cost to their employees.

The decline in the relative importance of retirement costs reflects the shift from defined benefit to defined contribution plans and a rising stock market that enabled employers to meet their defined benefit obligations with smaller outlays than before.

The Bureau's compensation program was influenced by these changes occurring in compensations plans, particularly the growing depth and breath of, and public interest in, data relating to benefit plans. Additionally, budget cuts in the late 1970s and early 1980s led to tough decisions regarding which BLS programs had to be scaled back or eliminated. The criterion increasingly used by Congress during this time when deciding what surveys to fund was whether the survey was of broad national interest.

BLS already had extensive experience in surveying and publishing wage data; but, by 1975, the Bureau realized that it also needed to capture and publish benefit information, particularly benefit costs, to produce total compensation cost measures. This initiative presented the Bureau with the challenges of identifying, measuring, and publishing benefit cost data every quarter, while continuing to publish timely, high-quality wage data.

To realize its objectives, BLS enhanced the ECI program. In 1980, rates of change in benefits costs were published for the first time for the private nonfarm economy and for a selected number of subseries. In 1981, wage and benefit indexes for State and local governments were added, as well as indexes for the combined private nonfarm and State and local government workforces.

In the mid-1980s, for example, Congress provided the Bureau additional funds to expand the ECI sample of establishments, in order to increase the number of series published, particularly in the service sector. As a result of this initiative, a new series was published for health services, including hospitals, that reflected the growing national interest in information about health care costs and their potential inflationary effects. At the same time, however, major cuts were made in the IWS and AWS programs, with the surviving surveys targeting major metropolitan areas and industries of special interest, such as temporary help supply companies.

Partly as a result of the ECI sample expansion, it was determined in 1987 that it was possible to begin publishing estimates of compensation cost levels—the employer cost per hour worked for employee compensation and its components—from data collected for the ECI.[78] This new data source, called Employer Costs for Employee Compensation (ECEC), replaced the Employer Expenditures for Employee Compensation that was abolished after its 1977 survey.

The 1990s and the New Economy

During the 1990s, the resurgence in American confidence begun in the 1980s continued. Except for a mild recession in 1990-91, the economy expanded continuously through the 1990s. By the end of the decade, there were large budget surpluses. Over this decade, employment in the private sector grew by more than 20 million, to about 110 million. The largest employment gains occurred in retail trade (especially eating and drinking places) and the service industry (especially business and health services).

The unemployment rate declined steadily after 1992; but, surprisingly, there was no resurgence of inflation, as had occurred in other periods of sustained growth. The unemployment was at a 30-year low in 1999. Despite this growing tightness in the labor market, the inflation rate, too, declined, from 6.1 percent in 1990 to 1.6 percent in 1998. The CPI increased 3.4 percent in 2000, the highest since 1990, but still low given the unemployment rate.

One of the explanations given for the low rate of price increases was moderation in wage gains. Production workers' average hourly earnings increased 3.5 percent in 1990 and only 2.1 percent in 1992. Wage increases were in the 2.6- to 2.9-percent range during 1993-95 and in the 3.8- to 4.2-percent range during 1996-2000. Despite the relatively low rate of wage increases during the 1990s, *real* average earnings rose slightly, because prices increased even less.

During the first half of the decade, benefit costs rose faster than wages and salaries, but in the second half that relationship was reversed. This pattern largely reflected what was happening to employer costs for health insurance. The net effect of these changes was to return the structure of compensation in 2000 to about what it was in 1990. Dominant features of compensation in the 1990s were pay for performance and other forms of flexibility in what workers were paid.[78] At this time, pay reflected stock options, profit sharing, choices among benefits, and individual awards.

The decade saw several changes in the Bureau's core compensation programs to meet a broad set of administrative and programmatic needs, to capture changes in compensation practices, and to adjust to resource constraints. Most importantly, during this time, the Bureau began planning and implementing the development of a comprehensive, integrated compensation program, the National Compensation Survey.

A major change in the Bureau's wage survey program came with passage by Congress of the Federal Employees Pay Comparability Act of 1990 (FEPCA), which changed the pay-comparability process by creating a combination of national and local pay adjustments[80]

The FEPCA provided that Federal white-collar worker pay include a national adjustment (based on the ECI) and a locality adjustment. The latter required creation of a locality-based system to replace the single General Schedule that largely disregarded locality pay differences found in the private sector. The President's Pay Agent[81] was given primary responsibility for administering FEPCA, and FEPCA named the Bureau of Labor Statistics as the agency to conduct surveys for use in determining locality pay levels.

In the early 1990s, the Bureau combined its existing occupational wage surveys by area and industry—AWS, PATC, IWS, and SCA—into a single survey, the Occupational Compensation Survey (OCS), to fulfill its part in implementing FEPCA.[81] Given the tight budgetary environment and various needs of users of these existing surveys, it was decided to pursue three goals: Provide data required by FEPCA, continue to provide as much of the traditional data as possible, and streamline and cut back on the overall cost of collecting occupational wage data. The end result was development of a single survey that retained as many of the features of existing programs as possible.

After several years of collecting locality pay data in OCS, it became clear that, to gain maximum efficiencies, BLS would have to further coordinate the collection and processing of compensation data—that is, combine the OCS and ECI, ECEC, and EBS surveys. What were the driving forces that led the Bureau to adopt this umbrella approach to compensation? In effect, changing Federal pay requirements already had resulted in the integration of the AWS and PATC estimates for white-collar occupations and work levels. Also, health reform initiatives in 1993 pointed to the need for further integration of the Bureau's compensation program. While BLS produced substantial data on employers' health care costs and employees' health care costs, these data

could not be combined, and plan costs could not be compared to plan provisions. This led the Bureau to re-examine its compensation programs and resulted in the formulation of the National Compensation Survey (NCS). The OCS was the first program included in the NCS, in 1997. The ECI, ECEC, and EBS[3] surveys are now being incorporated into the NCS.

The NCS is designed to meet a broad set of administrative and programmatic needs. It is a flexible, integrated, comprehensive effort that retains the best features of the previous surveys and does so in an efficient way, by minimizing the burden on establishments to provide wage and benefits data and by reducing duplication in data processing. The NCS's flexible design allows BLS to adjust the survey to changing administrative and programmatic needs and to capture changes in compensation practices that the survey must reflect.

The survey sample provides wage distributions and information on wages by occupation and work level, by area. The wage distributions show, for example, average earnings in the bottom and top quartiles as well as the mean and median. Work levels show earnings for different types of job requirements within each occupation, based on a factor evaluation system that makes use of nine factors, such as knowledge, supervision required, and complexity. Because these factors are also used in the factor evaluation system to grade Federal General Schedule workers, this information can be used to derive grade level equivalents for Federal workers, as well.

In addition to wage data, the NCS provides information on employer costs of benefits, as well as benefit incidence and provisions. This information will enable analysts to evaluate the cost of particular benefits, in addition to tradeoffs of wages for benefits. The large sample size for this wages and benefits portion of the NCS will permit the publication of new measures, such as compensation indexes for major metropolitan areas, as well as publication of more detailed industry and occupational series at the national level.

Developments in Compensation Packages—Wages, Time-off, and Reimbursement Accounts: Health Care and Life Insurance Benefits and Retirement and Savings Plans

Over the 20th century, the composition of employee compensation packages has changed from wages only to a wide range of time-off, insurance, retirement benefits, and more, in addition to wages. The availability of voluntarily provided benefits (such as life insurance and pension plans) and legally required benefits (such as Sociality Security benefits) essentially began as either isolated benefits in the 1920s—or social tinkering in the 1930s—and began to escalate in the late 1940s, when health and welfare benefits became more common. As an illustration, employer costs for employee benefits as a percent of compensation increased from 3 percent in 1929 to 17 percent in 1955 and 27 percent in 1999.

	1900	1925	1950	1975	2000
Wages, time-off and reimbursment account	Wages	Wages	Wages	Wages and annual bonuses	Wages, and supplements that tie pay to performance
		Paid holidays	Paid holidays and vacation	Paid holidays, vacations, and personal leave	Consolidated leave plan giving employee choice of days off
					Unpaid family leave

Developments in Compensation Packages—Wages, Time-off, and Reimbursement Accounts: Health Care and Life Insurance Benefits and Retirement and Savings Plans—Continued

	1900	1925	1950	1975	2000
					Reimbursement account for child care expenses
Health care and life insurance benefits		Company doctor	Basic medical plan through Blue Cross-Blue Shield	Basic medical plan plus major medical through commercial insurer	Choice of medical plans including Health Maintenance Organizations (HMOs)
				Dental plan	Choice of dental, vision, and prescripation drug plans
				Medicare	Medicare and retiree health insurance
		Benevolent association death and disability benefits	Fixed amount life insurance and weekly disability benefit	Life insurance varying with earnings; paid sick	Choice of life insurance amounts; paid sick leave
Retirement and savings plans			Social Security benefits available at age 65	Social Security benefits available at age 65, with reduced benefits at age 62	Social Security full benefits available at age 67, with reduced benefits at age 62, for workers born in 1960 or later
				Defined benefit pension	Combination of pensions and 401(K) savings plans

Future trends in employee compensation

"Truth in our ideas means their power to work."
— William James

How will employee compensation programs evolve during the 21st century? Predicting developments in this field is difficult for many of the same reasons that making economic predictions is difficult. We live in a vibrant economy that routinely outpaces our ability to understand it fully and in a world where outside factors often change a system before we can model it precisely.

Like the economy as a whole, the compensation field is affected by forces working in opposite directions. Employers seek to curb labor costs to remain competitive in supplying goods and services, but at the same time may need to upgrade compensation programs to attract and retain skilled workers. Additionally, an aging population, by placing increased demands on employer health care and retirement plans, may prompt employers to adopt cost containment measures. At the same time, however, a small supply of young workers may prompt employers to enhance compensation packages to compete for qualified staff.

These opposing forces will challenge efforts to maintain correct and relevant statistics on compensation in this new century. The voluntary nature of most data collection relies on the cooperation of employers and especially human resource professionals. As these individuals face the difficult task of developing competitive compensation packages while limiting costs, their ability to comply with requests for detailed data may be strained.

Three major trends characterized employee compensation in the last years of the 20th century, and these trends will probably shape employee compensation in the early years of the new century. As with the last century, however, it is unlikely that the ways employees are compensated will evolve along a straight path. Companies and governments will try many alternative programs; some will work and become the paradigms of the 21st century; others will not and will be discarded or will be adopted in only a few workplaces.

Aligning pay to organizational goals. The first of these three major compensation trends is aligning pay to organizational goals. As our Nation's economy becomes increasingly tied to world economic conditions, competitive pressures will prompt employers to seek ways to efficiently use their workforces. Employee compensation, in this environment, will increasingly be viewed as a tool for promoting increased productivity and innovation among workers. Compensation programs are, thus, likely to be geared to employee performance or desired characteristics such as skills or knowledge. Examples of these compensation programs include variable pay schemes that tie pay to individual or group performance and salary plans that reflect the possession or acquisition of knowledge or skills deemed critical to the success of the organization. Compensation in the 21st century is also likely to evolve in ways that tie employee pay and benefits to corporate performance. Examples include stock options and profit-sharing plans.

Tailoring compensation to employee needs. The second major trend is tailoring compensation to employee needs. This is a way of efficiently delivering compensation to employees by giving them a choice in what they want or need, rather than providing a universal program that meets the needs of the average employee. Examples include choices among health care and within retirement savings plans, flexible work schedules and telecommuting arrangements, and reimbursement accounts. Implicit in this flexibility is the increase of employee responsibility in making prudent choices. On the other hand, this flexibility may be constrained, particularly if significant numbers of employees make poor choices. Social-policy concerns about the consequences of unwise choices, however, are less likely to stymie—than to shape—the evolution of this flexibility.

Reconfiguring employee benefit plans. The third major trend is reconfiguring employee benefit plans to provide for a defined level of employer contributions, rather than a defined level of ultimate benefit. This has been the trend in retirement plans over the 1980s and 1990s and may spread to other types of employee benefits plans. Examples include defined contribution employee health insurance plans, defined contribution retiree health insurance plans, and employer-funded reimbursement accounts. These arrangements give employers greater control over costs than in the past and greater ability to predict costs. On the other hand, employees are required to

absorb more risks associated with insuring against future events than formerly. Coupled with the trend to charge employees with more responsibility for retirement savings and other benefits, the move towards defined contribution insurance arrangements may spur countermeasures to insulate employees from these risks. For example, a defined contribution health insurance plan might be required to include a core set of benefits that guards employees against catastrophic expenses.

In the 1990s these three major compensation trends were seen as helping to meet the needs of a mobile workforce. With the expected labor shortages of the early years of the new century, however, these trends are likely to be tempered in ways thought to increase employee incentives for remaining with the organization. Employer drives to increase efficiency and curb costs may have to be balanced with one of the traditional goals of compensation programs–to acquire and maintain an adequate supply of skilled labor.

Capturing and reporting data that adequately illuminate these major trends will be a challenge for the Bureau of Labor Statistics and others. The movement toward compensation that is based more on individualperformance—and, thus, less standard—will require more data collection and innovative means of reporting results. No longer can pay be captured and reported as an hourly rate; all manner of pay such as individual bonuses, group bonuses, gainsharing, and stock options might need to be included in the new concept of pay.

The trend toward greater employee choice in compensation has already posed data collection and tabulation challenges; expansion of such choices will only compound the challenges. For example, where once employers offered only one health insurance plan, the often present choice of several plans means more data must be collected. And employee choice to substitute one benefit for another makes it more difficult to identify how much of a benefit cost is paid by the employer versus the employee. Additionally, flexibility in work hours (called flextime or flexitime) and work location (telecommuting or sometimes *flexplace*) make the traditional concept of *compensation per hour* less meaningful than before. Just as the 20th century saw an evolution in compensation statistics to address changes in the law and the growth of benefits, it is likely that statistics at the close of the 21st century will little resemble data available today.

Sources of Income for Women Aged 62 to 77 in 1999: Results from the National Longitudinal Survey of Women

Among women ages 62 to 77, sources of income differ by age, as shown by data from the 1999 round of interviews of the National Longitudinal Survey of Women. The most dramatic difference is the decreasing reliance of older women on wage income and the increasing number who draw income from Social Security. In the 12 months prior to the interview, 41 percent of women ages 62 to 64 received some income from their own wages, and 69 percent received income from Social Security.[1] For women older than age 65, the percentage that received income from their own wages was dramatically lower. Of women ages 65 to 69, 26 percent received wages, while 88 percent received income from Social Security. Of women ages 70 to 77, 14 percent received income from wages and 88 percent received Social Security benefits.

A long-held belief is that Social Security, pensions, and personal assets (savings, stocks, and bonds) are more likely to be sources of income for older persons as they age. While it is true that the percent of women who received Social Security benefits was greater for those older than age 65, the percent of women who received income from savings, stocks, or bonds was similar across the age categories for women ages 62 to 64, 65 to 69, and 70 to 77. Moreover, the receipt of pensions—either from a woman's own previous employers or those of a spouse—did not vary much by age.

While the receipt of income from pensions and assets does not vary much by age, it does vary by marital status. Not surprisingly, the household income of married women comes from different sources than that of women who are not married. Of women ages 62 to 64, 54 percent of married women received pension income, compared with 28 percent of unmarried women. Married women in this age group were also more likely than their unmarried counterparts to have received income from assets (57 versus 35 percent). These differences in income sources exist among women in older age groups, as well. Sixty-one percent of married women aged 65 to 69 received income from pensions, compared with 36 percent of same-aged unmarried women. Fifty-five percent of married women ages 70 to 77 received income from pensions, compared to 42 percent of same-aged unmarried women.

In addition to income from Social Security, pensions, and assets, many older women also receive transfers of income and gifts from their children or those children of a spouse. In the 12 months prior to the interview, 56 percent of women ages 62 to 77 received financial support or gifts worth more than $200 from children; this percentage varied little, regardless of the women's age or marital status.

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[1] Social Security benefits are permanently reduced based on the number of months benefits are received prior to age 65. For example, if one individual retires at age 62, benefits will be reduced 20 percent, whereas if that same individual retires at age 64, benefits will be reduced 6.7 percent. This may serve as an incentive to delay retirement.

Percent of older women ages 62 to 77 in 1999 who received income from various sources in the 12 months prior to interview, by age and marital status

Age and sources of income	Marital status		
	Total	Married	Non-married
Total, age 62 to 77			
Own wages, salaries, tips and commissions	23.1	22.2	24.3
Spouse wages	24.5	24.5	—
Social Security	84.1	87.6	79.8
Pensions	48.2	56.5	38.1
Savings, stocks, bonds, trusts, estates	47.4	52.5	41.2
Government assistance	15.1	12.6	18.1
Intrafamily transfers	56.0	57.0	54.7
Ages 62 to 64			
Own wages, salaries, tips and commissions,	40.6	36.3	47.6
Spouse wages	33.8	33.8	—
Social Security	69.1	76.7	56.3
Pensions	44.0	53.4	28.0
Savings, stocks, bonds, trusts, estates	49.0	57.0	35.2
Government assistance	18.8	16.9	22.1
Intrafamily transfers	57.0	57.6	55.9
Ages 65 to 69			
Own wages, salaries, tips and commissions	26.3	23.8	30.1
Spouse wages	27.2	27.2	—
Social Security	87.6	91.6	81.8
Pensions	51.1	60.6	36.1
Savings, stocks, bonds, trusts, estates	46.3	52.0	37.2
Government assistance	14.6	11.5	19.5
Intrafamily transfers	57.2	57.0	57.5
Ages 70 to 74			
Own wages, salaries, tips and commissions+B62	15.6	15.0	16.2
Spouse wages	19.2	19.2	—
Social Security	86.9	89.7	84.3
Pensions	48.2	55.4	41.3
Savings, stocks, bonds, trusts, estates	46.8	50.5	43.2
Government Assistance	14.5	12.0	16.9
Intrafamily Transfers	53.3	56.1	50.6
Ages 75 to 77			
Own wages, salaries, tips and commissions	11.2	9.6	12.5
Spouse wages	12.4	12.4	—
Social Security	89.9	91.0	88.9
Pensions	47.4	53.5	42.8
Savings, stocks, bonds, trusts, estates	49.0	50.4	47.9
Government assistance	12.7	9.1	15.3
Intrafamily transfers	58.5	57.9	58.9

Individuals living with a partner, as if married, are not included.

Table 2-1. **Union scales of wages and hours of specified occupations, Chicago, 1913-25**

Occupation	1913 Hours per week	1913 Earnings per hour	1920 Hours per week	1920 Earnings per hour	1925 Hours per week	1925 Earnings per year
Bricklayer	44	$.750	44	$1.250	44	$1,500
Painter	44	.650	44	1.250	44	1,500
Plumber	44	.750	44	1.250	44	1,205
Stonecutter	44	.625	44	1.250	44	1,375
Typesetter[1]	48	.500	48	.988	44	1,191

[1]In the newspaper industry.

Table 2-2. **Composition of compensation costs in selected years, private industry workers**

Compensation component	1977	1986	1990
Total compensation	100.0	100.0	100.0
Wages and salaries	74.8	73.0	72.4
Total benefits	25.2	27.0	27.6
Paid leave	6.9	7.0	6.9
Supplemental pay	3.1	2.3	2.5
Insurance	4.0	5.5	6.1
Retirement and savings	4.3	3.8	3.0
Legally required benefits	6.9	8.4	9.0
Other benefits	-	.1	-

NOTE: Data for 1977 were obtained from the Employers Expenditures for Employee Compensation survey and related to the average for the entire year. Data for the other years are from the Employer Costs for Employee Compensation Survey and relate to March. While the data from the two surveys are not entirely comparable, they are similar.

Table 2-3. **Percent changes in the Employment Cost Index for compensation and its components, December 1989-99**

December	Compensation costs	Wages and salaries	Benefit costs
1989-94	20.7	17.4	29.6
1994-99	7.1	18.8	12.9

Table 2-4. **Composition of compensation costs in selected years, private industry workers**

Compensation component	1990	1995	2000
Total compensation	100.0	100.0	100.0
Wages and salaries	72.4	71.6	73.0
Total benefits	27.6	28.4	27.0
Paid leave	6.9	6.4	6.4
Supplemental pay	2.5	2.8	3.0
Insurance	6.1	6.7	6.0
Retirement and savings	3.0	3.0	3.0
Legally required benefits	9.0	9.3	8.4
Other benefits	-	.2	.2

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Endnotes

[1] See John T. Dunlop and Walter Galenson, eds., *Labor in the Twentieth Century* (New York, Academic Press, 1978), table 1.26.

[2] "Some aspects of health insurance," *Monthly Labor Review*, May 1917, pp. 746-51.

[3] Unemployment had fallen 9.9 percent in 1941 to 1.2 percent in 1944. See *Historical Statistics of the United States, Colonial Times to 1957*, Series D46-47 (Bureau of the Census, 1960). See also Dunlop and Galenson, table 1.25.

[4] See *Statistical Abstract of the United States, 1998* (Washington, U.S. Department of Commerce, 1998), table 654.

[5] Hourly costs of compensation were obtained from "Employer Costs for Employee Compensation," USDL 00-186 (Bureau of Labor Statistics, June 29, 2000), available on the Internet at ***ftp://146.142.4.23/pub/news.news.release/History/ecec.292000.news*** (visited June 14, 2001).

[6] The NIPA measure of supplements to wages and salaries does not correspond exactly to the Bureau of Labor Statistics definition of benefits. For instance, the BLS Employer Costs for Employee Compensation series defines a broader scope of payments as benefits, including supplemental pay for overtime and shift differentials and paid leave for such items as holiday, sick, and vacation leave. These same payments are included among NIPA's wage and salary estimates.

[7] Martin L. Primack and James F. Willis, *An Economic History of the United States* (Menlo Park, CA, Benjamin/Cummings Publishing Company, 1980), pp. 298-300. (An establishment is a single physical plant location.)

[8] See Primack and Willis, p. 282.

[9] See George T. Milkovich and Jennifer Stevens, "Back to the Future: A Century of Compensation," Working Paper 99-08 (Ithaca, NY, Cornell University Center for Advanced Human Resource Studies, July 1999), p.6.

[10] There is some disagreement with the view that, during the early 20th century, males worked until they died (that is, they had no opportunity for voluntary leisure after years of remunerative labor). A study showed that more than a fifth of males employed at late middle age left employment before their death. See Susan B. Carter and Richard Sutch, "Myth of the Industrial Scrap Heap: A Revisionist View of Turn-of-the-Century American Retirement," Historical Paper 73 (Cambridge, MA, National Bureau of Economic Research, 1995), p. 1.

[11] See Price V. Fishback and Shawn Everett Kantor, "A Prelude to the Welfare State: Compulsory State Insurance and Workers' Compensation in Minnesota, Ohio, and Washington, 1911-1919," *NBER Working Paper Series on Historical Factors in Long-run Growth*, Historical Paper 64 (Cambridge, MA, National Bureau of Economic Research, 1994), pp. 2-23.

[12] See Dunlop and Galenson, p. 30.

[13] U.S. Bureau of Labor, *Nineteenth Annual Report of the Commissioner of Labor: Wages and Hours of Labor* (Washington, U.S. Government Printing Office, 1905), p. 18.

[14] U.S. Bureau of Labor, *Twenty-third Annual Report of the Commissioner of Labor: Workmen's Insurance and Benefit Funds in the United States* (Washington, U.S. Government Printing Office, 1909), pp. 17-19.

[15] See John M. Peterson and Ralph Gray, *Economic Development of the United States* (Homewood, IL, Richard D. Irwin, Inc., 1969), p. 357.

[16] See Robert B. Reich, *The Work of Nations* (New York, Vintage Books, 1992), p. 39.

[17] See Peterson and Gray, p. 358.

[18] See Reich, p. 40.

[19] See Dunlop and Galenson, p. 32.

[20] See Dunlop and Galenson, p. 29.

[21] See Dunlop and Galenson, p. 47.

[22] Joseph P. Goldberg and William T. Moye, *The First Hundred Years of the Bureau of Labor Statistics*, Bulletin 2235 (Bureau of Labor Statistics, September 1985), p. 71.

[23] H.M. Douty, "A century of wage statistics: the BLS contribution," *Monthly Labor Review*, November 1984, p. 20.

[24] See Goldberg and Moye, p. 71.

[25] See Goldberg and Moye, p. 107.

[26] "The Work of the United States Bureau of Labor Statistics," *Monthly Labor Review*, December 1927, p. 1.

[27] See Goldberg and Moye, p. 114.

[28] See Goldberg and Moye, p. 120.

[29] See Goldberg and Moye, p. 124.

[30] See Douty, p. 20.

[31] "Changes in Union Scale of Wages and Hours of Labor, 1913 to 1925," *Monthly Labor Review*, September 1925, pp. 54-76.

[32] See Goldberg and Moye, p. 133.

[33] *Employee Benefits* (Washington, U.S. Department of Commerce, 1997), p. 41.

[34] "Workmen's Compensation Legislation as of July 1, 1926," *Monthly Labor Review*, March 1927, p. 55.

[35] Fatal injuries were not covered in Oklahoma where a constitutional barrier of compensation for death was held to exist.

[36] See "Workmen's Compensation," p. 55.

[37] "Group Insurance Experience of Various Establishments," *Monthly Labor Review*, June 1927, pp. 76-86.

[38] A group insurance plan is a contract typically made with an employer and an insurance company to cover a group of employees. Premiums are typically based on the group's claim experience. Group insurance plans were first developed for life insurance and disability insurance.

[39] See "Group Insurance," p. 76.

[40] See "Group Insurance," pp. 78-79.

[41] Ibid., pp. 80-81.

[42] Ibid., p. 82.

[43] See Dunlop and Galenson, p. 27.

[44] See Peterson and Gray, p. 401.

[45] See Dunlop and Galenson, p. 31.

[46] See Dunlop and Galenson, p. 79.

[47] Workers' compensation laws were enacted in all but four States—Florida, South Carolina, Arkansas, and Mississippi. See Price V. Fishback and Shawn E. Kantor, "The Adoption of Workers' Compensation in the United States, 1900-1930," Working Paper 5840 (Cambridge, MA, National Bureau of Economic Research, November 1996), p. 49.

[48] Ross M. Robertson, *History of the American Economy* (New York, Harcourt Brace Jovanovich, Inc., 1973), p. 676.

[49] See Robertson, p. 677.

[50] See Fishback and Kantor, "A Prelude to the Welfare State," p. 32.

[51] See Robertson, p. 677.

[52] See "Historical Development," *Social Security Online* (Washington, U.S. Social Security Administration) on the Internet at ***www.ssa.gov/history/brief.html*** (visited June 24, 2001).

[53] Alvin Bauman, "Measuring employee compensation in U.S. industry," *Monthly Labor Review*, October 1970, p. 19.

[54] See Bauman, p. 19.

[55] See Goldberg and Moye, p. 170.

[56] See Goldberg and Moye, p. 160.

[57] See Douty, p. 20.

[58] See Goldberg and Moye, p. 160.

[59] See Douty, p. 20.

[60] Frances Jones, "Personnel Policies and Working Conditions in the Manufacture of Cigarettes and Tobacco," *Monthly Labor Review*, February 1937, pp. 319-40.

[61] See Jones, p. 319.

[62] See Jones, p. 320.

[63] Edward P. Sanford, "Wage rates and hours of labor in the building trades," *Monthly Labor Review*, August 1937, pp. 281-93.

[64] See Sanford, p. 284.

[65] Frances Jones and Dorothy Smith, "Extent of vacations with pay in industry, 1937," *Monthly Labor Review*, August 1938, pp. 269-74.

[66] Frances Jones and Dorothy Smith, "Characteristics of paid-vacation plans," *Monthly Labor Review*, December 1938, pp. 1225-38.

[67] See Jones and Smith, "Characteristics of paid-vacation plans," p. 1235.

[68] See Jones and Smith, "Characteristics of paid-vacation plans," p. 1274.

[69] See Jones and Smith, "Characteristics of paid-vacation plans," p. 1225.

[70] See Douty, pp. 16-28; and Bauman, pp. 17-24.

[71] Section 211 of the Taft-Hartley Act authorizes the Bureau to collect various collective bargaining data, including union contract data. The CWD is the predecessor to the *Compensation and Working Conditions* publication, which still exists today.

[72] See Douty, pp. 22-23; Bauman, pp. 17-24; and Allan P. Blostin, "An Overview of the EBS and the NCS," *Compensation and Working Conditions*, spring 1999, pp. 2-3.

[73] See J. Bradford De Long, "America's Only Peacetime Inflation: the 1970's" (Cambridge, MA, National Bureau of Economic Research and University of California at Berkeley, 1995).

[74] There were other parts to the economic package, including a 90-day freeze on wage and price increases and elimination of gold-dollar convertibility.

[75] Norman J. Samuels, "Developing a general wage index," *Monthly Labor Review*, March 1971, pp. 3-8.

[76] Floyd Norris, Christine Bockelmann, and Paul A. Vocker, *The New York Times Century*

of Business (New York, McGraw-Hill, 1999), p. 253.

[77] See, for example, Albert E. Schwenk, "Trends in the Differences Between Union and Nonunion Workers in Pay Using the Employment Cost Index," *Compensation and Working Conditions*, September 1996, pp. 27-33.

[78] Felicia Nathan, "Analyzing employers' costs for wages, salaries, and benefits," *Monthly Labor Review*, October 1987, pp. 3-11.

[79] See Milkovich and Stevens, p. 6.

[80] See Public Law 101-509, Nov. 5, 1990.

[81] The President's Pay Agent consists of the Secretary of Labor, the Director of the Office of Management and Budget, and the Director of the Office of Personnel Management.

[82] A more detailed description of OCS is provided in John Buckley and Elizabeth Dietz, "The Occupational Compensation Survey: A Retrospective," *Compensation and Working Conditions*, Fall 1997, pp. 40-46.

[83] Beginning in 1990, EBS, ECI, and ECEC data were collected from the same set of establishments using consistent definitions.

[84] Social Security benefits are permanently reduced based on the number of months that benefits are received prior to age 65. For example, if one individual retires at age 62, benefits will be reduced 20 percent, whereas if that same individual retires at age 64, benefits will be reduced 6-2/3 percent. This may serve as an incentive to delay retirement.

Legislative and Regulatory Timeline

During the 20th century, Congress passed a number of laws that affected the American worker. Some laws provided a social safety net that protected workers against loss of income, due to unemployment, old age, or disability. Other laws protected workers' right to organize, bargain collectively, and be treated fairly by both their employers and union representatives. Separate laws banned socially unacceptable labor conditions such as child labor. Still others protected workers against adverse safety and health conditions; long hours; low pay; and discrimination based on race, sex, or national origin. In addition, some laws provided for job training and other services for the unemployed or underemployed, while other protected workers' benefits or encouraged new types of benefits.

1875	American Express Company established the first private pension plan offered by a U.S. company.
1884	Federal Labor Bureau, the pre-decessor of the Bureau of Labor Statistics was established by the Hopkins Act.
1891	Kansas established the first State prevailing wage law.
1903	Department of Commerce and Labor was established by an act of Congress.
1912	Massachusetts adopts first minimum wage law for women and minors.
1913	U.S.Department of Labor was established by an act of Congress. It includes the Bureau of Labor Statisics, the Bureau of Immigration and Naturalization, and the Children's Bureau.
1914	Clayton Act limited the use of injunctions in labor disputes and provided that picketing and other union activities should not be considered unlawful.
1916	First Federal child labor law. Signed, but struck down.
1920	Begin conversion to 5-day workweek. Women's Bureau established.
1926	Railway Labor Act required railroad employers to bargain collectively and not discriminate against employees for joining a union.
1931	Davis-Bacon Act provided for the payment of prevailing wage rates to laborers and mechanics employed by contractors and subconactors on public construction.
1932	Norris-LaGuardia Act
1933	Wagner-Peyser Act creates U.S. Employment Service in Department of Labor.
1935	Federal Social Security Act provided a nationwide system of social insurance to protect wage earners and their families. National Labor Relation (Wagner) Act established the first national policy of protecting the rights of workers to organize and elect their representatives for collective bargaining purposes.
1936	Public Contracts (Walsh-Healy) Act set labor standards on Government contracts requiring the manufacture or purchase of materials.
1938	Fair Labor Standards Act set minimum wage, maximum hours, and time pay, as well as equal pay and child labor standards.
1947	Labor-Management Relations (Taft-Hartley) Act reiterated policies protecting rights of workers to organize and elect union representatives and placed some checks on union and management activities.
1949	An amendment to the Fair Labor Standards Act directly prohibited child labor for the first time. Courts decide that benefits are subject to collective bargaining.
1958	Welfare and Pension Disclosure Act required administration of health insurance, pension, and supplementary unemployment compensation plans to file plan descriptions and annual financial reports with the Secretary of Labor.
1959	Labor-Management Reporting (Landrum-Griffin) Act prohibited improper activities by labor and management, such as secondary boycotts; provided certain protection for the rights of union members; and required filing of certain financial reports by unions and employers.
1962	Manpower Development and Training Act required Federal Government to determine manpower requirements and resources and to "deal with the problems of unemployment resulting from automation and technological changes and other types of unemployment."

Legislative and Regulatory Timeline—Continued	
1963	Equal Pay Act prohibited wage differentials based on sex for workers covered by the Fair Labor Standards Act.
1964	Title VII of the Civil Rights Act established U.S. Equal Employment Opportunity Commission to enforce Federal statutes prohibiting employment discrimination.
1965	Medicare established under Social Security. McNamara-O'Hara Service Contract Act provided wage standards for employees performing work on Federal service contract.
1968	Age Discrimination in Employment Act made it illegal to discharge, refuse to hire, or otherwise discriminate against persons ages 40 to 65.
1969	Federal Coal Mine Health and Safety Act protected the health and safety of the Nation's coal miners.
1970	Occupational Safety and Health Act (OSHA) placed certain duties on employers and employees to assure safe and healthful working conditions.
1974	Employer Retirement Income Security Act (ERISA) imposed standards on employer-provided benefit plans. Act was designed to protect the security of pension promises made by private sector firms.
1978	Pregnancy Discrimination Act required employee benefit programs to treat pregnancy in the same way as illnesses. Revenue Act of 1978 permitted employers to create 401(k) plans.
1982	Job Training Partnership Act (JPTA) prepared youths and adults facing serious barriers to employment by providing job training and other services that would result in increased earnings, increased education and occupational skills, and decreased welfare dependency.
1985	Consolidated Omnibus Budget Reconciliation Act (COBRA) required employers that provide health care benefits to continue such benefits to formerly-covered individuals for a period of time after employer coverage ends.
1986	Strengthening of Age Discrimination in Employment Act. Tax Reform Act included provisions designed to simplify employer pension plan administration.
1989	Worker Adjustment and Retraining Notification Act provided protection to workers, their families and communities, by requiring employers to provide notification 60 calendar days in advance of plant closings and mass layoffs.
1990	Americans with Disabilities Act (ADA) established a clear and comprehensive prohibition of discrimination on the basis of disability.
1993	Family and Medical Leave Act mandated employers to provide unpaid time off for worker and family medical purposes.
1998	Workforce Investment Act
1999	Ticket to Work and Work Incentives Act

Chapter 3

Economic Change and Structures of Classification

The 20th century encompassed enormous change in the structure of the U.S. economy. Two World Wars and the Korean and Viet Nam conflicts, combined with the Great Depression, OPEC oil embargoes, major structural changes in the global economy, and revolutionary computer technologies, all illustrate the importance of understanding how such shocks have affected our economy and will continue to affect it in the coming decades.

At the same time, the 20th century witnessed the evolution of the Federal statistical system. Methodological innovations, such as sampling theory, national income accounting, and the incorporation of computer technology, all improved the quality and timeliness of specific statistics.[1] In addition, the development of standardized classification systems provided more consistency across data systems. Classification systems create an order that demonstrates relationships and facilitates analysis.

In the statistical world, the availability of a universal classification system facilitates comparisons of findings across data collection efforts. At an even more basic level, classification systems are necessary to translate microdata into tables and charts that can be understood by data users.

Clearly, statisticians and economists need to work from a common base of classification, both for industries and for occupations. In a dynamic economy, any classification system must, of necessity, be a work in progress, continually balancing the need for a current and accurate description of the economy with the need for consistent time series data.

The purpose of this chapter is to present the evolution of classification systems in use in this country over the past 100 years for both industry and occupational data collection efforts. It would make for a better story if we could point to specific technological developments, such as the invention of the telephone or the semiconductor as the impetuses for change.[2] The fact is, however, that our economy has evolved as much in response to social, political, and economic factors, such as wars and depressions, as it has to specific technological innovations. That evolution has been taking place steadily over all of the past 100 years, and would require a lengthy volume indeed to spell out all the factors of change that have been involved. Our hope here is to give an outline of the factors leading to several key developments in U.S. economic taxonomy and, finally, to look to the future with some ideas of how our current classification systems will serve us in the coming decades.

Industry Classification

Industry-based data collection began in 1810 with the institution of the Census of Manufac-

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tures.[3] Agriculture, mining, and fisheries censuses followed in 1840, and the Census of Governments began in 1850. Data were collected by a number of agencies, among them the U.S. Treasury Department and the U.S. Department of State.

The censuses carried out in 1810, 1820, and 1840 provided little more than the gross outlines of manufacturing development. The reasons are many, and include the fact that the Federal marshals who supervised the field operations also had other duties, and often were unable to devote the necessary time and attention to the censuses given into their charge. The marshals' assistants, the actual census enumerators, often were given only very sketchy direction or none at all, and may have had difficulty eliciting answers to the more complex economic questions embodied in the business censuses.

The marshals had the responsibility for compiling and classifying the data gathered in their jurisdiction. This decentralization introduced some irregularities in the reported information because the marshals were not trained statisticians, and they often used divergent procedures in carrying out their census duties. To add to the difficulties, many of the entrepreneurs of the day believed that the government should play a minimal role in economic affairs, and were suspicious and uncooperative when asked to provide information about their business to Federal agents. In many other cases, the enumerators were faced with businesses that maintained little or no ongoing record of their operations, and whose owners or managers were thus unable to answer the detailed queries with any more than the sketchiest estimates.

Industry classifications were very rough and ready during the first three manufacturing census efforts. The classification, such as it was, reflected a primarily demand- or market-oriented approach, which lumped more or less substitutable products into loose industry groupings. As a result of the inaccuracies of these first censuses, Congress established the Census Board, precursor to today's Census Bureau, on March 3, 1849. The Census Board oversaw the collection of data from establishments (once again by Federal marshals' deputies) and carried out the compilation in Washington with a cadre of trained clerks supervised by statisticians. Data items were classified by industry based on the product that the respondent said was produced at the establishment in largest quantity, essentially leaving the question of classification up to the respondents themselves.

Early critics of the Census Board's industry-based data collection programs noted that, because of the lack of focus on industry classification, not enough information was collected to adequately estimate total production of specific commodities across the economy. In 1925, analyst Laurence F. Schmeckebier described problems in classifying information on the flavoring extract industry.[4] Results of the 1921 Census of Manufactures showed the output of this industry to be $33,060,000, but this figure included output of other, secondary products by the industry that were not identified by commodity. Moreover, another $14,372,692 worth of flavoring extracts were produced as secondary products of other industries, although those industries were not themselves identified. It thus was impossible to determine the value of production of the commodity flavoring extracts from published reports on the 1921 Census of Manufactures. Indeed, problems surrounding how data were collected and what data were collected were so pressing that the issue of how industries were defined was not examined critically during the first 100 years or more of data collection.

Mobilization for World War I forced a number of Federal statistical agencies to the realization that they needed to collect data on an industry basis. Quite a few disjointed and inconsistent methods of defining industries sprang up, and the business establishments that were asked to respond to these data requests became alarmed at the lack of coordination and what they saw as poorly designed data collection efforts. The response burden quickly grew to the point that, in 1918, the War Industries Board established the Central Bureau of Planning and Statistics.[5] The Bureau undertook to:

(1) improve statistical operations by developing uniform standards and definitions,
(2) catalog government statistics, and
(3) advise agencies on statistical methods.

In 1919, the functions of this agency were transferred to the fledgling Bureau of Efficiency, which concerned itself with the coordination of statistical programs. It issued a report in 1922, recommending the centralization of nonadministrative statistical work in a Federal Bureau of Statistics, at which point the Bureau was disbanded, presumably to make room for this newly recommended central sta-

tistical office. The Bureau of Statistics was, however, never approved, and the issues of statistical and classification oversight were effectively shelved for the remainder of the 1920s.

As a result of the Great Depression and also because of political developments in Europe, interest once again grew in the mid-1930s for greater coordination of Federal statistical programs. On July 27, 1933, President Franklin D. Roosevelt signed an Executive Order, prepared by a committee of the American Statistical Association and the Social Science Research Council, authorizing the formation of the Central Statistical Board (CSB). CSB had as its primary responsibility "to formulate standards for and to effect coordination of the statistical services of the Federal Government incident to the purpose of the National Industrial Recovery Act." While four earlier attempts to coordinate Federal statistics programs had failed, CSB (through its successor agencies) was destined to survive right up to the present day. Most germane to the present discussion was the formation by the CSB in 1937 of an Interdepartmental Committee on Industrial Classification "to develop a plan of classification of various types of statistical data by industries and to promote the general adoption of such classification as the standard classification of the Federal Government."

Standardization of the industry classification plan was an important objective because various agencies were once again collecting industrial data, each using its own classification scheme. Such a situation made the comparison of industrial data prepared by different agencies difficult and often misleading. Work began on this standardized industrial classification in June 1938, and was guided by the following general principles:

1) The classification should conform to the existing structure of American industry.

2) The reporting units to be classified are establishments rather than legal entities or companies.

3) Each establishment is to be classified according to its major activity.

4) To be recognized as an industry, each group of establishments must have significance from the standpoint of the number of establishments, number of wage earners, volume of business, employment and payroll fluctuations, and other important economic features.

The Standard Industrial Classification system

The result of all this work was compiled as the *Standard Industrial Classification Manual* (SIC) and was issued in duplicated form as two volumes: *Volume 1, Manufacturing Industries* (released primarily in 1939) and *Volume 2, Nonmanufacturing Industries* (released primarily in 1940).[6] The results were reviewed in light of the experiences of the agencies making use of the new classification system, and the first printed edition of the SIC was published for manufacturing industries in 1941 and for nonmanufacturing industries in 1942. Major revisions to the SIC were published in 1957, 1967, 1972, and 1987. These revisions were a result of cooperation among statistical agencies and the business sector, with overall coordination provided by the CSB, then by the Bureau of the Budget, and, finally, by the U.S. Office of Management and Budget.

Unfortunately, the SIC shared a major problem with all earlier industrial classification systems in that it lacked a theoretical foundation based on economic concepts.[7] While there was an underlying idea that an establishment should be classified by type of economic activity, this idea was not defined with sufficient rigor. With no single guiding economic principle of classification or aggregation laid down at the outset, the SIC evolved into a number of different classification schemes. In most cases, the product or activity dominated the classification decision but, in some cases, end use, raw materials, or market structure was the deciding factor. None of these schemes was incorrect, but they were not consistent. Moreover, as old industry definitions were modified or new industries were added, the logic seemed to make perfect sense for each change. Unfortunately, the result was that, over time, the SIC became a less and less homogeneous grouping of industries. Some examples may help clarify the inconsistencies that had crept in over the years.

Supply-based vs. demand-based. Two possible approaches to defining industries were from the supply side and from the demand side. In the supply-side approach, establishments were grouped into industries based on similarities in the production process. That is, establishments with similar or identical production functions were grouped together as an industry concept. In this approach "the production function should be understood as an abstract description of the engineering prin-

ciples for a production process, or as a description of the production technology, not just as a list of inputs. In principle, it is engineering information about the production process that determines if establishments are sufficiently similar to justify grouping them by a supply-side concept." An example of this type of industry classification is provided by the two different chain-producing industries: SIC 3496, chain made from purchased wire, and SIC 3462, chain made from forged steel. Even though the end products of these two industries were good substitutes for each other, the production processes differed significantly; thus, the decision was taken to follow a supply-side approach to industry definition in this case.

A demand-side, or commodity-oriented, classification concept groups together commodities or services that have similarities in use, that belong together, that are used together for some purpose, or that define market groupings. Consider the apparel industries. Apparel industries are split between men's and boys' apparel and women's and girls' apparel. Clearly, the production technology is virtually indistinguishable between the two groupings, yet the markets are different in terms of marketing approach and pricing.

Embodiment of the true economic structure. A frequently encountered statement in the early economic classification literature is that the classification system should "reflect the structure of the economy." If a well-defined economic concept of "structure of the economy" does not exist, however, the potential for difficulties arises over time. In one view, the structure of the economy encompasses what industries exist, where they are located, what inputs they use, what outputs they produce, and what markets they serve. Yet, one must question whether the SIC really did accomplish this purpose. In the 1987 SIC, 57 percent of the four-digit SIC codes are goods-producing industries, while 43 percent relate to the entire nongoods-producing sector. In 1987, however, only 45 percent of real gross domestic product was accounted for by the goods-producing sector, while 55 percent arose in service-producing industries. Nonagricultural employment in 1987 was split 24 percent to 76 percent between goods-producing industries on the one hand, and service-producing and government industries on the other. On the basis of these estimates, many economists and statisticians were increasingly concerned that the SIC did not reflect the true structure of the economy.

Another definition of "structure of the economy" refers to the organization of production units for marketing goods or services, including the degree of vertical integration. For example, two separate meat processing industries are recognized in the 1987 SIC, meat packing plants (SIC 2011) and sausages and other prepared meat products (SIC 2013). The two produce the same output—meat products—but meat packing plants slaughter the animals they use in their production process while the other industry produces meat products from purchased carcasses and other meats. Here, the degree of vertical integration was the deciding factor in splitting these two sets of establishments. At the same time, however, poultry slaughtering and processing (SIC 2015) includes both types of processing establishments, regardless of whether they actually slaughter the poultry themselves.

Another "structure of the economy" issue concerns the extent to which some industries combine activities. The hotels and motels industry (SIC 7011), for example, encompasses many distinct economic activities, including restaurants, bars, room rental, and gift shops, many of which also are enumerated in other four-digit SIC categories. By including the value of production of all these distinct activities in one industry, the statistics relating to the other four-digit SIC codes are distorted to a degree that may not be immediately apparent.

Finally, many economists and statisticians noted that the SIC was unable to recognize new or emerging industries in a timely manner. The point of all of these examples is not to judge which of them were "right" or "wrong" but to point out the growing number of inconsistent treatments that had crept into the SIC scheme of classification, inconsistencies that were due almost entirely to a lack of a unified economic concept of the industry and of the proper way to categorize establishments by industry.

The enactment of the North American Free Trade Agreement (NAFTA) formalized a free-trade area among the United States, Canada, and Mexico. In 1993, when the agreement was signed by all three countries, the U. S. industry classification system was governed by the 1987 SIC. Canada's classification system dated from 1980, and Mexico had no industry classification system in place (its first was published in 1994). To meet the monitoring requirements

built into NAFTA, a coordinated industry classification needed to be developed to suit all three economies. This turned out to be the ultimate argument for replacing the Standard Industrial Classification.

The North American Industry Classification System

An International Conference on the Classification of Economic Activities was held in Williamsburg, VA, in 1991. As a result of that conference, the U.S. Office of Management and Budget established the Economic Classification Policy Committee (ECPC) in 1992, chaired by the Bureau of Economic Analysis and with representatives from BLS and the Census Bureau. The charter of the ECPC was to undertake a "fresh slate" study of alternate economic concepts by which to categorize industries and to recommend changes to or replacement of the SIC system of industry classification.

Working papers of the ECPC during those first years provided a detailed analysis of conceptual problems with the existing SIC system, along with a set of alternative strategies regarding the development of a system that would replace the SIC. These "straw man" proposals formed the basis for extensive comment and debate, not only among government statisticians and economists, but also among the users of SIC-based statistics from academia and the business community. As a result, the ECPC developed a set of final proposals for a system that would replace the SIC, and that they hoped would adequately address the problems and inconsistencies that had been developing over the 50-year lifespan of the SIC.

The result of ECPC's work was published in 1997—the North American Industry Classification System (NAICS), constructed within a single conceptual framework.[8] Economic units that have similar production processes are classified in the same industry, and the lines drawn between industries demarcate, to the extent practicable, differences in production processes. Special attention was given to developing these production-oriented classifications for:

(1) new and emerging industries,
(2) service industries in general, and
(3) industries engaged in the production of advanced technologies.

NAICS went on to provide enhanced industry comparability among the economies of the United States, Canada, and Mexico, and it provided increased compatibility with the two-digit level of the International Standard Industrial Classification of the United Nations.

NAICS divides the economy into 20 sectors. (See box entitled "A comparison of the NAICS and the SIC structures.") Industries within these sectors are grouped according to the production criterion. Although the goods/services distinction is no longer explicitly reflected in the structure of the new classification system, 5 sectors are largely goods-producing, and the remaining 15 are entirely service-producing industries.

What exactly has NAICS accomplished? ECPC has summarized what makes NAICS a better economic classification system in terms of relevancy, consistency, comparability, and flexibility.[9]

Relevancy. NAICS provides 1,170 detailed industry classifications for the U.S. economy, a 15-percent increase in total classifications, compared with those available under the SIC. The new system replaces or revises approximately 60 percent of the previously available SIC industries, and provides 358 new industries not identified at all under the SIC. The resulting expanded and revised industry classifications better mirror businesses and methods of business operation in our modern economy. (Some of the new industries identified under NAICS are shown in the box entitled "New NAICS industries.")

Consistency. NAICS changes key classification concepts and definitions, a development that may have substantial impacts on how businesses are classified and the number and kind of businesses in particular classification groupings. Each business is now classified into a detailed industry based on the production processes it uses.

Use of this production-based classification principle has an impact on the boundary between retail and wholesale trade sectors. Retailers typically sell merchandise in small quantities using public-oriented methods such as mass media advertising, placement of stores in high-traffic locations, and design of attractive displays. Wholesalers sell goods in large quantities using business-oriented methods such as developing specialized catalogs, nurturing customer contacts, and locating warehouses or offices judiciously. This definitional approach

improves the classification and statistics for each sector but also changes them. For example, more than half of the petroleum bulk stations previously classified as wholesalers under SIC will be classified as retailers under NAICS.

Comparability. NAICS was developed, is being implemented, and will be maintained by statistical agencies of Canada, Mexico, and the United States. When the system has been fully implemented, comparison of industrial statistics for all three countries will be possible, and completely new information about cross-border trade flows and business markets will be available. For Canada, the *NAICS Canada Manual* has been published and implementation of the new classification system took place over the 1997-2000 period. For Mexico, NAICS implementation is in progress. That country's 1998 Economic Census was carried out using NAICS.

A comparison of the NAICS and the SIC structures

NAICS	SIC
Sector (two-digit) Subsector (three-digit) Industry group (four-digit) NAICS international industry (five-digit) National industry (six-digit)	Division (one-digit) Major group (two-digit) Industry group (three-digit) Industry (four-digit)
Total (713 five-digit industries) Agriculture, forestry, fishing, and hunting (42 five-digit industries) Mining (10 five-digit industries) Utilities (4 five-digit industries) Construction (28 five-digit industries) Manufacturing (179 five-digit industries) Wholesale trade (69 five-digit industries) Retail trade (62 five-digit industries) Transportation and warehousing (42 five-digit industries) Information (28 five-digit industries) Finance and insurance (32 five-digit industries) Real estate and rental and leasing (19 five-digit industries) Professional, scientific, and technical services (35 five-digit industries) Management of companies and enterprises (1 five-digit industry) Administrative and support, waste management and remediation services (28 five-digit industries) Educational services (12 five-digit industries) Health care and social assistance (29 five-digit industries) Arts, entertainment, and recreation (23 five-digit industries) Accommodation and food services (11 five-digit industries) Other services (30 five-digit industries) Public administration (29 five-digit industries)	Total (904 four-digit industries) Agriculture, forestry, and fishing (58 four-digit industries) Mining (31 four-digit industries) Construction (26 four-digit industries) Manufacturing (459 four-digit industries) Transportation and public utilities (67 four-digit industries) Wholesale trade (69 four-digit industries) Retail trade (64 four-digit industries) Finance, insurance, and real estate (53 four-digit industries) Services (50 four-digit industries) Public administration (27 four-digit industries)

Flexibility. The intention is that NAICS classifications will be updated on a regular basis to keep pace with changes in the U.S. economy. All three North American countries will review NAICS every 5 years and make necessary revisions.

The NAICS implementation schedule within the U.S. statistical community is spread out over a 7-year period. (See exhibit 1.) The first major program affected by NAICS was the 1997 Economic Census. For a sample of the data that have been made available in the Economic Census, see Annex A.

Despite its great advances in industry classification, the existing NAICS is still a work in progress. Due to severe time constraints, the ECPC decided to leave the wholesale and retail trade sectors and the construction sectors essentially unchanged from the 1987 SIC. A second edition of NAICS, scheduled for release in 2002, will address the revisions in these three sectors, as well as revisions of the other 1997 industries as required.

Finally, for all those researchers who depend on the availability of consistent time series data, it may well be a decade before an adequate set of data has been generated under NAICS. For the 422 industries that are substantially unchanged between the SIC and NAICS classification schemes, there is no problem—analysts will simply continue to gather data as they are released. For the 748 industries that are either new or substantially revised from the SIC, the problem becomes a bit stickier. For a time, it will be necessary to bridge backward to a consistent SIC basis (insofar as that can be carried out) but, ultimately, the analyst will find it necessary to bridge earlier SIC-based data forward to the NAICS. Both bridge processes will require some carefully thought-out approaches and well-documented assumptions, especially in light of the fact that only one period of data overlap is planned for most industry-based data collection efforts.

Occupational Classifications

"Occupations" are jobs or positions that employ the knowledge and skills of people. Positions and jobs are the structures of work that employers offer to workers. When a position or job is filled by a person, it becomes that person's occupation. When a person is performing in a position or job, the person is referred to as a worker. An occupation is defined by the interaction of the work organized in a position or job, the work content, and the education and skills that a person brings to performing that work content. Occupational information looks beyond titles to the work content, education, and skills that are required by the structure of work in our economy. The products of occupational analysis are the structure of positions and jobs in the economy, the skill base of the employed workforce, and the economic contribution of the employed workforce as measured by wage data. The development of these products in the form of data series creates a dynamic picture of the change occurring in the character of work in the economy. Occupational data may be analyzed either within industry classification structures or solely within their own occupational classification structure. These concepts create a framework for a "job economy."

Purpose and value

An occupational classification is the logical structure used by statisticians, economists, and persons in other disciplines to describe and quantify the variety of ways in which a workforce is remuneratively employed. The actual variables that define and influence the occupational structure of the American workforce are even more complex and dynamic. The availability of a classification structure, even with inherent limitations, permits the collection of statistics that measure these variables and represent others by inference. The level of wages earned by the employed workforce is one of the most evident of such measures. In turn, these wages represent the economic contributions and productivity of various workforce segments defined in the classification structure. The products and services of the employed workforce and the market context in which they are delivered are indications of the more complex variables that shape the workforce. For example, energy production is one of society's continuing needs. Throughout a complex chain of consumer demands and production requirements, the number of persons employed in this pursuit and their corresponding wages are determined.

In its dynamic aspects, the actual workforce structure is derived from the final demand for a commercial and consumer "market basket" of products and services. The demand for products and services reflects a variety of competing requirements for the Nation's standard of living and the means to produce and maintain it. How individual occupations are structured

New NAICS industries
Semiconductor machinery manufacturing Fiber optic cable manufacturing Software reproducing Convenience stores Gasoline stations with convenience stores
Warehouse clubs and superstores Food (health) supplement stores Pet and pet supply stores Pet care services Cable networks
Satellite telecommunications Paging Cellular and other wireless telecommunications Telecommunications resellers Credit card issuing
Temporary help services Telemarketing bureaus Hazardous waste collection HMO medical centers Continuing care retirement communities
Casinos Casino hotels Bed-and-breakfast inns Limited-service restaurants Automotive oil change and lubrication shops Diet and weight reducing centers

is largely a matter of technology, a combination of human and machine technologies. Products and services themselves reflect advances in science, engineering acumen, and consumer knowledge. For example, in retail distribution, workers selling the same goods may be employed by a traditional retail outlet, a discount or warehouse store, or an Internet marketer.

Some may be inclined to view an occupational classification system as a window into the activities of the employed workforce. However, there is another, more important perspective that this discussion presents. As treated here, an occupational classification structure is more like a prism or a crystal. Depending upon our perspective—which may be political, social, economic, technological, or cultural—the same occupational classification structure can suggest a variety of different parameters that have shaped it and defined its contributions to our current standard of living and way of life. Although it is difficult to know all these parameters directly, they may be known by inference. For example, the form and functions of products such as automobiles change as a result of science and technology. How and where these automobiles are produced is determined by technology and economic choice. The form and quality of these products often are the result of cultural preferences and education. The workforce changes subtly in response to all of these forces.

Why classify occupations?

An occupation is a group of jobs in which workers perform similar tasks, duties, or activities at similar skill levels. A job is a group of similar positions and a position is a slot in an organization occupied by a single individual.[10] Occupations may be clustered into groups based on some common element, such as similarity of work, workplace, or worker characteristics. An occupational classification system helps define the occupational structure in the workplace and provides a framework for descriptive occupational statistics, such as employment levels, job openings, earnings, and education.

There are four primary groups of users of this information:

(1) workers and potential workers needing information about likely jobs,

(2) employers needing labor market information for personnel, marketing, or planning purposes,

(3) counselors in the academic and vocational sectors, and

(4) researchers, including economists and sociologists, and related policymakers, for analyzing labor market trends, social policies, and other issues.[11]

The users of occupational information also may be grouped as micro-users and macro-users. Micro-users require information to assist in structuring jobs, defining job requirements, recruiting workers, developing career plans, seeking training opportunities, and aiding others in finding jobs and related training. Macro-users require occupational information to evaluate the structure and performance of the economy, develop models for studying labor market dynamics, identify current and potential areas of worker dislocations, promote targeted economic development efforts, and plan and implement education and training programs.

Occupations may be viewed from a survey perspective. The Census of Population and the Bureau's Current Population Survey ask open-ended questions about household members' occupations, with responses referred to as occupational titles. Census analysts group related titles, and these groups constitute census occupations. Closed-end surveys, typically of employers, provide occupational definitions that specify the range of job activities included, and data collected represent all workers whose position descriptions match these definitions.

While positions have independent existence, jobs and occupations are, in some essential way, arbitrary and artificial.[12] Most occupations do not have natural boundaries. Positions and jobs can be viewed as existing on a continuum, along which classifiers set boundaries.[13] The breadth of occupations depends, to a great extent, on the level of detail desired and the total number of occupations in a system. For example, mechanics, automotive mechanics, automobile body repairers, or automotive glass installers each could be an individual occupation. In a system with more detailed occupations, higher levels of aggregation might become minor or major occupation groups, rather than occupations. There is tremendous potential for occupational detail. The 2000 census, for example, lists about 31,000 individual job titles, and the 1991 Dictionary of Occupational titles lists more than 12,000 jobs.

Education or skill level also may be considered in determining boundaries—for example, to ensure that there are distinctions among "professional," technician, and aide occupations in the same field or among craftworkers, (semiskilled) operatives, and helpers.[14] Use of this criterion, in particular, encourages homogenous groupings, so that meaningful inferences can be made about characteristics of individual cases. Obviously, the greater the level of occupational detail, the more homogeneity possible. However, limited sample size or inadequate responses to open-ended questions may limit the amount of occupational detail. For example, distinctions among short order, institutional and cafeteria, and restaurant cooks, or between light or delivery services and heavy and tractor-trailer truck drivers have been perennial problems in household surveys. Employer-based surveys are better at collecting this information and permit the gathering of more detail. The appropriate level of detail also may be determined by the range of job tasks. Many health technologist, technician, and therapist jobs are very specialized, with workers performing a limited range of tasks, generally specified by licensing boards. In contrast, sales jobs tend to be general, with most having common tasks.[15] This suggests that sales occupations be specified in relatively less detail than health occupations.

The collection of data describing occupations, the process of organizing it, and the analysis of occupational data require a conceptual toolkit. Definitions of terms are a logical starting point. While the 31,000 job titles in the 2000 census index have importance in general socioeconomic terms, their usefulness in economic analysis is limited by the fact that household data are reported by title, without definition and verification of job content. Even if every title were supported by a unique definition of job content that was verified, the large number of jobs makes organization and analysis of this information impossible. In order to arrive at a structure for organizing and analyzing occupations, a taxonomy built upon similarities is needed. The structure of the taxonomy should be flexible enough to admit new occupations as they develop. Similarities within and between groups

in the taxonomy are required. Work content and skill requirements are basic similarities among jobs. Formal education, licensing, and certifications are other similarities that may be considered.

For purposes of illustrating the conceptual tools used in occupational analysis, consider how the job "bus driver" presents complexities that are not evident at first glance. Bus drivers differ and share similarities based upon the points they connect and the distances they drive. Likewise, they may operate commercial vehicles of various sizes. Bus drivers convey different groups of passengers with varying needs for assistance, such as those related to infirmities and disabilities, luggage, special fare rates, and safety requirements. There may be different legal and licensing requirements for operation of certain classes of vehicles or groups of passengers. A taxonomy for "bus drivers" must take these similarities and differences into account. In the Standard Occupational Classification (SOC) system (p. 106), bus drivers who drive large commercial buses on a scheduled basis over regular routes, on charters, or as private carriage are classified as "bus drivers, transit and intercity." Those who transport students or special clients such as the elderly or disabled are classified as "bus drivers, school." Consider now the complexity of following this same process in developing a taxonomy for 31,000 jobs that can be reduced to a manageable and meaningful number of detailed occupations about which survey data can be collected and analyzed.

There have been two basic systems used to classify occupations. One, classifying occupations by the industry in which they are concentrated, was used by the Decennial Census of Population through 1930. The other, classifying by some combination of several factors—nature of the work performed, skill level, education requirements, and socioeconomic class, with only minor regard for industry in which occupations are concentrated—has been used in all later systems.

No single classification system can create occupational groupings to suit all purposes. For example, systems based solely on work performed do a poor job of grouping occupations by required level of education.[16] The greater the level of occupational detail, the easier it is to rearrange occupations to meet alternative analytical purposes.

The distinction made between the characteristics of workers and those of occupations is useful for purposes of discussing supply and demand dynamics that may determine the content of occupations. These two sets of characteristics overlap and interact in the definition of particular occupations and in the determination of the wages that the incumbents are able to earn. When worker characteristics are defined in job terms, the result is a definition of employer demand requirements. Conversely, when worker characteristics are defined in terms of education, training, and skills; the resulting definition represents the supply of workers. These distinctions come into practical play when surveyed work content is classified. For example, work performed is defined by employers, while education and skill represent assets that workers bring to bear in performing the defined work. Sometimes, problems may arise when classifying occupations because worker characteristics such as education, licenses, and certifications may be assigned undue importance in defining the skill requirements for the performance of certain work. Given jobs may be performed within a wide range of educational accomplishments and skills. Any imposing of a particular educational or performance level in defining an occupational category might artificially disassociate occupational categories that have the same performance requirements. Accepting a wider range of educational and skill qualifications in job definitions will result in a wider range of associated wage rates. These wage rates might be the best reflection of the interaction between the characteristics of occupations and the characteristics of workers.

New occupations can be added or rapidly growing ones split, while declining occupations can be combined or deleted to reflect the changing distribution of employment or the effect of new technologies and business practices. Some "new" occupations are, in fact, simply spin-offs of long-existing occupations. New job tasks generally are first assumed by workers experienced in related tasks in existing occupations. These tasks may remain comfortably classified within existing occupations or may eventually be spun off.

To determine which jobs are appropriate for spin-offs, occupational classification specialists look for groups of jobs 1) with tasks and activities that are sufficiently distinct from those of other jobs, and 2) that show potential for growth. They rely on anecdotal evidence; labor market research, such as that conducted by Occupational Analysis Field Centers;[17] large

numbers of responses on census questionnaires; or employer responses to questions about occupations not listed on survey forms. Early identification of new jobs that require formal training is important so that data for career guidance and education planning can be collected. Yet, this can be difficult. Many groups of jobs identified as "new and emerging" in the past never grew much or received further attention.[18] In contrast, computer jobs, which might have been identified as occupations during the 1950's, were not, but it was not then obvious that computers had enough applications to support much employment growth.[19]

The current occupational employment information obtained from employers has no immediate, direct use in the study of labor market mobility dynamics. Data needed for mobility studies are collected through surveys that follow individuals over time, such as the Current Population Survey. While it is theoretically possible to discuss the elasticities of worker job choices within and among industries, the data needed to test related hypotheses currently are unavailable or imprecise. Similarly, the elasticities of employer demand for workers existing between a given occupational category and closely related categories cannot be gleaned from available data at this time, and no known plans exist for collecting suitable data in the near future.

Some economists have identified what they consider economic criteria for the structuring of occupational classification based on elasticity criteria. These are standardization of occupational classifications, adaptability to change over time, ability to reflect technological change, responsiveness to changing educational policy, and the range of substitution possibilities available to employers. If all these criteria were met, the available occupational information would provide a consistent framework within which to study employer selection decisions and worker job choices. The current SOC system is a move in the direction of providing a needed standardized framework within which worker mobility may be studied.

The early census approach

The 1900 census specified 475 occupations (but published data on 303), developed from about 17,000 titles; the 2000 census allowed for 503 occupations, developed from about 31,000 titles. From 1870 to 1930, census occupations were organized within an industrial framework. Occupations were placed in the industry of greatest employment, even if much of their employment was in other industries. (Several of the industries, however, may be more accurately described as service groups.) The 1900 census specified five major categories:

(1) Agricultural pursuits

(2) Professional service

(3) Domestic and personal service (including health, food service, and protective service)

(4) Trade (including banking, insurance, and real estate) and transportation (including communication)

(5) Manufacturing and mechanical pursuits (including construction, fishing, and mining)

The 1910 census was expanded to allow for nine major occupational categories.[20] There also were numerous subgroups, consisting mostly of managers, foremen, operatives, or laborers specified by detailed industry, but few occupational subgroups. This system generally grouped occupations producing similar goods and services and located on the same promotion ladders—for example, helpers and apprentices, journey-level workers, supervisors, and managers.

The revised census approach

In 1938, the American Statistical Association and the Central Statistical Board appointed a joint committee on Occupational Classification to devise a standard classification. (The Board also formed a committee on Industrial Classification, as discussed in the previous section.). This classification was based on some combination of similarity of work, education requirements, skill level, and socioeconomic class, with only minor regard for industry in which occupations were concentrated. It was first used in the 1939 Dictionary of Occupational Titles (DOT), published by the U.S. Employment Service (USES) to present job descriptions and other nonstatistical information about occupations. It also was used, with some modification, to organize data on occupations collected in the 1940 census. The revised census scheme consisted of 11 major groups:

(1) Professional and semiprofessional

(2) Farmers and farm managers

(3) Proprietors, mangers, and officials, except farm

(4) Clerical, sales, and kindred workers

(5) Craftsmen, foremen, and kindred

(6) Operatives and kindred workers
(7) Domestic service workers
(8) Protective service workers
(9) Service workers, except domestic and protective
(10) Farm laborers and foremen
(11) Laborers, except farm

Occupations with similar work functions were placed in the same group and groups were arranged in a hierarchical system that corresponded, more or less, with skill and training level and socioeconomic status.[21] The new system grouped all managers together, and did the same for craftworkers, operatives, and laborers. Sales workers, who had been grouped with wholesale and retail dealers and managers and other workers in the trade group, were now combined with clerical workers.[22] The domestic and personal service group was split, and the professional service group became professional and semiprofessional workers.[23] These major groups were more homogeneous than the industry groups.

The 1940 census system had another advantage. It permitted tabulation of wage and salary employment data by industry *and* occupation,[24] and calculation of occupational staffing patterns—each occupation as a percent of total employment in every industry. This made possible construction of the BLS Industry-Occupation matrix, a key tool in developing occupational employment projections.[25] However, the system, like its predecessor, lacked occupational subgroups; within groups, occupations were simply listed alphabetically.[26]

A period of transition

Since the 1960s, policymakers, academicians, government administrators, and researchers have independently recognized the changing character of the American economy. Some might term it a mature economy; others might characterize it as "post-industrial"; many see it as part of a global network; and others see it as a high-technology economy, characterized by knowledge industries. All of these observers are reporting on or projecting the changing character of the "work structure" of the economy. The results of this recognition have contributed to major paradigm shifts in the way in which America's industries will be viewed. The change from the Standard Industrial Classification system entailed a change in fundamental concepts, defining industries in terms of processes rather than products. The change from the census system of classifying occupations to the SOC system involved a movement from a mixed system of classification to a system based entirely on work performed and related skills. The SOC system further incorporates structural features that free occupational classification from its previously industry-rooted structure.

In 1965, the then Bureau of the Budget asked 28 agencies about the desirability of establishing a standard classification system for occupations, corresponding to the SIC for industries. It was prompted by a desire to provide more comparability among occupational statistics prepared by Federal agencies and other organizations. Based on responses to this letter, the Bureau appointed an Interagency Occupational Classification Committee to provide recommendations on a new classification system. The committee first met in 1966, and preliminary work was incorporated into the 1970 census. For example, professional, technical, and kindred workers (professional and semiprofessional in the 1940 census was renamed in 1950) were organized into a number of minor groups, replacing the 1960 census alphabetical listing. These minor groups included computer specialists (three computer occupations were created in 1970); teachers, except college; writers, artists, and entertainers; and three health occupation groups. A *Standard Occupational Classification Manual* was published in 1977, and was revised in1980 (in time for the 1980 census) and again in 2000 (for the 2000 census).

The SOC system classifies occupations on the basis of work performed and on required skills, education, training, and credentials, as did the 1940 census system.[27] The 2000 SOC has 23 major groups, which generally correspond to or are disaggregations of 1940-70 census major groups.[28] It provides much more hierarchical structure, with 96 minor occupation groups and more occupations—821. The census professional and technical group was split into eight major groups, corresponding to minor groups in the 1970 census, with some combining and reconfiguration, reflecting the growing number of professional and technical occupations. Service workers were allocated among five major groups, and craftworkers (including construction), extraction workers, mechanics and repairers, and precision production workers, operatives, and laborers were allocated among four major groups.

The 2000 SOC structure is shown in exhibit 2. The SOC also provides an aggregation (intermediate level) of these 23 groups into 11 groups. A comparison of the 23-group and the 11-group categories makes clear how the SOC evolved from the census structure. The intermediate grouping is shown in exhibit 3.

Response of the classification system to new products, technologies, and other changes

This section discusses classification system responses to three 20th century products or technologies—motor vehicles, airplanes, and computers—and three changes in the methods and organization of production—the growth of science and engineering, the advent of mass production, and the rise of bureaucratic organizations. The character of work has changed at an accelerating rate during the past 100 years. The organization of work in terms of jobs or positions reflects ongoing changes in the structure and nature of capital stocks, progress in the development of technologies, changes in the structure of product and factor markets, and rising levels of education and training. The increasing rate of change in the structure of work in the American economy requires a corresponding increase in the ability of employers to create jobs and positions that utilize the full economic talents of workers and in opportunities for workers to obtain the education and training needed for these jobs and positions.

The development of motor vehicles radically changed transportation. It also gave rise to many new occupations and caused the decline of others. In 1900, there were only 8,000 registered motor vehicles. The first mass-produced car was introduced in 1901, and the first practical vehicles were produced by 1903. Automobile industries developed rapidly thereafter and, by 1910, there were nearly half a million automobile and 10,000 truck registrations. By 1920, there were 8 million automobile and 1.1 million truck registrations. As a result, six motor vehicle-related occupations were added in the 1910 census: two repair-related—garage owners and managers and garage laborers; two automobile factory-related—semiskilled operatives and laborers; retail automobile dealers; and motor vehicle drivers, called chauffeurs. However, attempts to distinguish chauffeurs and other motor vehicle drivers from drivers of vehicles using draft animals—draymen, teamsters, and expressmen; and carriage drivers and hacks—in data collection were not very successful.[29] A seventh occupation—automobile mechanics—appeared in the1910 *Index to Occupations*, but no data were published for it until 1930.[30] Retail dealers, gasoline stations; and laborers and helpers, auto stores and filling stations also appeared in the classification system in 1930, and attendants, filling station and parking lot, were included in 1940.

As the use of motor vehicles spread, employment related to horse-drawn vehicles declined sharply. In the 1930 census, livery stable managers and foremen of livery companies were downgraded to titles within the category of transportation managers and transportation foremen. Draymen and teamsters were combined with carriage drivers in 1930, but the combined occupation (name shortened to Teamsters in 1940) remained an occupation until 1980, when it was downgraded to a single title within the category of miscellaneous material moving equipment operators. Also in 1940, hostlers and stable hands were downgraded to titles in laborers (not elsewhere classified) and operatives in wagon and carriage factories and, in harness and saddle factories, to titles within operatives (not elsewhere classified). In the 1950 census, bus, taxi, and truck drivers were separately enumerated and so, in the 1970 census, were automobile body repairers. The 2000 SOC specified two types of bus drivers and truck drivers, and separated a new specialty—automobile glass installers and repairers—from other body repairers, reflecting the shift of much auto glass work to specialized glass shops.

Aviation industries, although highly visible, developed much more slowly than did automobile industries, and this was reflected in much slower change within the classification system. While the first heavier-than-air flight took place in 1903, scheduled air transportation did not begin until 1926. Aircraft technology and production and air transportation developed during the 1930's and World War II, but air passenger and freight traffic were not significant economic activities until the 1950's.

The occupation of aviators appeared in the 1910 census (as "aeronauts"), classified under showmen, which also included titles such as athletes, balloonists, and performers; in 1920, aviators became a separate occupation. Aircraft mechanics appeared as a title under other mechanics in 1920 and as an occupation in its own right in 1930. Three air transporta-

tion industry occupations—proprietors, managers, and officials; foremen and overseers; and laborers—also were added to the job classification in 1930, even though the industry was small. Aircraft manufacturing operatives appeared as a title in 1920 and as an occupation in 1940. Aeronautical engineers, which also appeared as a title in the 1920 census under mechanical engineers, became an occupation in 1950.[31] Airline stewardesses appeared as a title in 1940 under registered nurses, reflecting the requirement that they be nurses, presumably to deal with passengers' discomforts from unpressur-ized cabins and air-sickness. The nursing requirement was soon removed and, in 1950, the title was shifted to the housekeepers and stewards category; in 1970, airline stewardesses became an occupation. Air traffic controllers also appeared in 1940—as airport control operators, a title within radio and wireless operators—and became an occupation in 1970.

Electronic computers, an outgrowth of mechanical and punchcard-based calculators and computers, have given rise to a number of occupations. The first commercial electronic computer was delivered to the Bureau of the Census in 1951.[32] Programming languages soon were introduced, and increased capacities and speed led to the widespread adoption of computers, with continued expansion, including the development of networks, during the 1990's.

Calculating machine operators and tabulating machine operators first appear as titles in the 1920 census within other clerks and, in 1940, within office machine operators. Systems engineers (in SIC 357, office machine manufacturing), first appeared as a title in the 1950 census—not within engineers, but in the category, all other professional and technical workers—and, according to the 1949 Dictionary of Occupational Titles, devised procedures for use of punchcard-based systems. Computer programmers, computer systems analysts, and computer specialists (not elsewhere classified) first appeared as titles in the 1960 census (under professional, technical, and kindred workers, not elsewhere classified) and by 1970, all three were designated as occupations. Computer operators and data processing machine repairmen also were added in 1970. The 2000 SOC lists 12 computer specialists, including computer engineers, computer support specialists, database administrators, network and computer systems administrators, and network systems and data communications analysts, placed in a computer and mathematical science occupations major group.[33]

All engineers appeared in the 1870 census as one occupation. The 1900 census classified a number of engineering branches into three categories: civil; chemical, metallurgical, and mining; and mechanical, electrical, and all other. As employment grew, branches specified in 1900 were separated; in 1940, industrial engineers were added and, in 1950, aeronautical engineers. The 1970 census separated petroleum engineers from mining and, in 1980, nuclear engineers were separated from electrical engineers. The 2000 SOC lists 19 types of engineers, including biomedical and environmental, and classifies engineers in a major occupation group, along with architects and surveyors.[34]

The 1900 census had only one scientific occupation, chemists, assayers, and metallurgists. However, it listed astronomer, bacteriologist, botanist, entomologist, geologist, mathematician, and paleontologist titles under other professional pursuits.[35] Titles were added in following censuses, and these were combined in 1950 into six occupations—agricultural scientists, biological scientists, geologists and geophysicists, mathematicians, physicists, and miscellaneous natural scientists. (Data were not published for these groups until 1960.) The 1970 census added atmospheric and space scientists and marine scientists. The 2000 SOC listed 21 natural scientist occupations, including biochemists and microbiologists, classified into both life scientist and physical scientist minor groups. As science and engineering became more institutionalized, the role of inventors declined. Inventor, a separate occupation since 1900, was downgraded to a title within professional workers (not elsewhere classified) in 1940.

Statisticians became a title (under other professional pursuits) in the 1900 census,[36] as did psychologists in 1920 and economists in 1930; these three, along with miscellaneous social scientists, became occupations in 1950. (Data were not published until 1960.) The 1970 census added political scientists, sociologists, and urban and regional planners, and the 2000 SOC included market research analysts and survey researchers.

By 1900, mass production, using power machinery and characterized by minute division of labor, was replacing handcraft, and semiskilled operatives were replacing craftworkers.

In response, the 1910 census greatly expanded the number of manufacturing industries for which it showed semiskilled operatives (not elsewhere classified). In addition, it downgraded a number of craft occupations, such as broom and brush makers, glovemakers, leather tanners, and tool and cutlery makers, to titles within semiskilled operatives (not elsewhere classified). Later censuses downgraded other occupations, including blacksmiths, coopers, glass blowers, and potters. Some new manufacturing occupations, such as computer-controlled machine-tool operators, fiberglass laminators and fabricators, and team assemblers were added. However, reflecting the relative decline of manufacturing employment, the share of of production occupations among all occupations decreased from more than 2 out of 5 in the 1900 census to about 1 in 6 in the 2000 SOC.

The growth of bureaucratic organizations and specialized administrative activities gave rise to new business and financial operations occupations and their classification as a major occupation group in the 2000 SOC. Accountants and auditors is the only occupation in this group that existed in the 1900 census classification, although there were insurance examiners and adjusters, purchasing agents and buyers, loan agents, and various government inspector titles at that time. Purchasing agents and buyers and inspectors, government were added in 1940 and personnel and labor-relations workers and insurance adjusters, examiners, and investigators, in 1950. In the 1980 census, a management-related occupations minor group, which eventually became the business and financial operations major group in the 2000 SOC, was created. It also included management analysts, underwriters, and other financial officers. The 2000 SOC lists 30 occupations in this group, including 4 personnel and labor relations occupations, cost estimators, financial analysts, and meeting and convention planners.[17]

The Occupational Employment Survey

Occupational information has always been a component of population data. However, its current economic importance can be traced back to the regional loss of jobs in the 1950s in both the automobile and textile industries. Competition in the auto industry led to the closing, consolidation, or relocation of several Detroit-area automobile manufacturers and to periods of extended unemployment for the workers affected. Similarly, the textile industry in the New England States experienced relocations of major mills to the south. During this period and in response to these situations, the Manpower Development and Training Act of 1962 was enacted, and responsibility for its implementation and administration initially was given to the U.S. Department of Labor's Bureau of Apprenticeship and Training. This act was the progenitor of a series of workforce training acts that have culminated in the current Workforce Investment Act of 1998, administered by the Labor Department's Employment and Training Administration. All of these acts have in common the fact that labor market information at the detailed occupational level is necessary for their proper administration. This information serves to identify areas of demand for workers and requirements for their training. These developments explain the early and continuing efforts of the Bureau of Labor Statistics (BLS) to provide occupational information and statistics to an increasing range and number of users.

Starting in 1959, BLS began collecting information through employer surveys of 18 scientific, engineering, and technical occupations.[18] This experience helped guide a series of pilot studies during the 1960s to test the feasibility of collecting occupational information for a larger number of occupations. In 1968, a comprehensive survey of the metalworking industries was conducted to collect data on 54 clerical and blue-collar occupations. The printing and publishing industry was surveyed in 1970 using a list of 97 occupations. Various tests of mailed structured and unstructured data collection techniques were made during this period, and it was determined that mailed structured techniques including lists of defined occupations were necessary to develop useful and comparable data.

In 1971, the first Occupational Employment Statistics (OES) survey was completed through the cooperation of BLS and 15 participating States, with support from the U.S. Department of Labor's Manpower Administration (the predecessor of the current Employment and Training Administration). During the 1973-76 period, an expanded survey, with data collected by 29 States, was completed. For purposes of completing the national data framework, information for the remaining States was collected by the BLS Washington office. The first national estimates for occupational employment were

completed in 1977. The number of occupations included in the survey was 2000 in 1970 and 800 in 1980, reflecting the experience gained by program personnel in collecting useable occupational information.

Throughout the historical development period of the OES survey, the Standard Occupational Classification (SOC) system originated, evolved, and matured into its current form as a skills-based occupational classification system. During the 1970s, the U.S. Office of Management and Budget attempted to have an SOC system incorporated into the1980 census. The 1980 SOC had 664 detailed occupations, compared with the 750 then found in the extant OES classification system. The two systems both were in use (along with several others) until 2001, when the SOC became the governmentwide standard.

Beginning with the 1999 survey, the OES survey questionnaire was converted to reflect the SOC coding system. About 400 of the SOC-based occupations matched to old OES occupations on a one-to-one or many-to-one basis, at least conceptually. The goal of matching the SOC occupations to the old OES occupations was to maximize the number of publishable estimates.

The 1998 OES survey occupational titles and definitions were based on the old OES coding structure and definitions. For the 1999 survey, however, the SOC was the source of the OES occupational titles and definitions. Even for the approximately 400 occupations whose definitions basically matched on a one-to-one or many-to-one basis between the two surveys, there were slight and subtle differences in the occupational titles and definitions that may have affected reporting by the respondents.

Patterns of change in the OES and SOC occupational classification systems

An ever-present issue in the process of developing and using an occupational classification system to collect employment data is the inherent conflict between collection of data to form a valid and reliable data series and use of a structure that permits and identifies changes in the occupational composition of the employed workforce. A related issue involves validity and reliability of data obtained from supply-side respondents in household surveys versus that obtained from demand-side respondents who are employers. Three problems associated with this issue are the volume, variety, and comparability of responses that identify occupations by as many as 31,000 titles, and possibly even more variations on these.

The range of methodologies for addressing these issues starts, on one hand, with the use of unstructured responses, such as those that the census elicits and that are subsequently placed within a classification structure. At the other extreme are closed classification structures that place choices into a limited number of fixed categories. All structured classification systems include a category of "residuals." The use of a classification that includes "all others" is a way of providing flexibility and realizing economies in collecting data that would otherwise be ignored or forced into an inappropriate classification. The occupational classification systems of the OES are structured systems that include categories of residuals at various levels of detail.

The patterns of change in census occupational categories are known to reflect changing socioeconomic conditions in which the Nation's policymakers and administrators might be interested. The earliest choices of occupations to be surveyed in the OES program were those identified on an industry basis—for example, occupations found in metalworking, printing, and electrometallurgical industries. The early OES surveys were considered to be pretests for the evaluation of survey tools that included structured and unstructured alternatives.

In the first attempts to implement a comprehensive occupational survey, BLS staff used the *Dictionary of Occupational Titles* and other sources to develop lists and definitions of occupations for each industry. These were reviewed by State agencies, the U.S. Manpower Administration (precursor of the U.S. Employment and Training Administration), trade unions, employer associations, and a crosssection of 535 manufacturing firms. Comments and suggestions from these various reviewing sources were incorporated in the job list and definitions. To make the survey tools manageable and to avoid placing unnecessary burdens on employers, occupational lists were tailored to the identified staffing patterns of particular industries. This practice continues today.

The major changes in occupational classifications from the OES system to the SOC system were intended to achieve the following:

(1) Increased emphasis on the business and financial operations that constitute the support for management occupations,

(2) A greater delineation and explication of the professions, including:

- Computer and mathematical occupations
- Architecture and engineering occupations
- Life, physical, and social science occupations
- Community and social services occupations
- Legal occupations
- Education, training, and library occupations,

(3) A more detailed specification of service occupations, including:

- Arts, design, entertainment, sports, and media occupations
- Healthcare support occupations
- Protective service occupations
- Food preparation and serving related occupations
- Building and grounds cleaning and maintenance occupations
- Personal care and service occupations, and

(4) Increased coverage of installation, maintenance, and repair occupations.

The former OES classification system was at its most extensive in 1970, including as many as 2,000 occupations. In 1980, the OES classification system was based on approximately 800 occupations. While a direct cross-walk from the former OES occupations to the SOC detailed occupations is not possible because of the many splits and consolidations of old occupations into new occupations, it is noteworthy that a core of approximately 800 occupations make up the skill-based foundation of the current SOC classification system.

As was the practice in census classifications and in the OES classification, the SOC system retains the use of residual categories at all levels below the major level. This feature permits the coding of new and emerging occupations to be done during the initial data collection. Over time, it also permits the collection of sufficient data on these emerging occupations to justify their explicit, detailed identification at the detailed occupation level of the SOC system.

Future Directions

One may rightly ask what has been accomplished and where are we going. The answer is that a new framework has been laid for continued development of information, policy, and programs that will ensure continued industrial development and full utilization of the Nation's workforce. It may be difficult to see at this time how such a process-based system for industry information will contribute. But, consider that we are in the midst of an economy with an increasingly important service sector that needs to be nurtured and further developed. Look at the unexplored impacts of recent technology changes and consider our gaining an increased ability to define new production and employment opportunities. Take into account the fact that a dynamically changing economy must be able to offer its citizens education or programs to develop skills needed to enjoy new jobs. Existing workers should have mobility opportunities based on recognition that skills are not tied to a particular industry or job title. These new strengths depend upon developing and using the kinds of information and analyses that can put workers, educators, employers, and various workforce program administrators abreast or ahead of changing conditions. This will not happen overnight. These new systems are now being put into use. They are the right answer for guiding the Nation's economy into Millennium 2000.

While it is too early to point to realized benefits, some gains from the new framework for occupational analysis can be anticipated. First and foremost, more informed policy attention will be directed to changing job conditions, availability, and impacts, in our economy. Intra- and interindustry skill requirements will be better defined; and future education and training programs will contribute to enhanced worker mobility and increased employer willingness to hire outside of traditional industry patterns of requirements. Changes at the industry level will be better accommodated by the increased mobility opportunities of workers. Over the long-term, the role of work in defining socioeconomic status will be diminished in favor of increasing the economic importance of an individual's education and planned acquisition of skills.

Exhibit 1. **NAICS implementation schedule for major statistical programs**

Program	Data reference year	Publication date
CENSUS BUREAU PROGRAMS		
1997 Economic Census		
Advance employment, receipts, and payroll	1997	1999
Comparative Statistics Report	1997	January 2000
Bridge Between NAICS and SIC	1997	March 2000
Manufacturing surveys		
Annual Survey of Manufactures	1998	June 2000
Current Industrial Reports	1998	2000
Manufactures Shipments, Inventories, and Unfilled Orders	2001	2001
Services surveys		
Annual Trade Survey (wholesale)	1998–99	March 2001
Wholesale Trade Monthly	2001	2001
Annual Retail Trade Survey	1998—99	April 2001
Retail Trade Monthly	2001	2001
Transportation Annual Survey	1998—99	February 2001
Service Annual Survey	1998—99	February 2001
Other programs		
County Business Patterns	1998	March 2000
Quarterly Financial Report	Fourth-quarter 2000	March 2001
Annual Capital Expenditures Survey	1999	February 2001
Manufacturing and Trade Inventory and Sales	2001	2001
Research and Development Survey	1997—98	April 2001
BUREAU OF ECONOMIC ANALYSIS PROGRAMS		
Foreign Direct Investment Benchmark Survey	1997	1999
U.S. Direct Investment Abroad Benchmark Survey	1999	2001
Annual Foreign Direct Investment Survey	1998	2000
Annual U.S. Direct Investment Abroad Survey	2000	2002
Quarterly Foreign Direct Investment Survey	2001	2001
Quarterly U.S. Direct Investment Abroad Survey	2002	2002
Benchmark Input-Output Accounts	1997	2002
Corporate Profits	1998	2001
State Personal Income	2000	2001
Gross Product Originating by Industry	2001	2002
Real Inventories, Sales, and Inventory-Sales Ratios, Manufacturing and Trade	2001	2002
Gross State Product by Industry	2001	2003
BUREAU OF LABOR STATISTICS PROGRAMS		
Employment and Wages Report (annual)	2000	2001
Current Employment Statistics survey (monthly)	2002	2003
Occupational Employment Statistics (annual)	2002	2003
Producer Price Index/1997 Net Output Indexes (monthly)	1997	2004

Exhibit 2. **Structure of Standard Occupational Classification (SOC) 2000**

SOC code	Major group
11-0000	Management occupations
13-0000	Business and financial operations occupations
15-0000	Computer and mathematical occupations
17-0000	Architecture and engineering occupations
19-0000	Life, physical, and social science occupations
21-0000	Community and social services occupations
23-0000	Legal occupations
25-0000	Education, training, and library occupations
27-0000	Arts, design, entertainment, sports, and media occupations
29-0000	Healthcare practitioner and technical occupations
31-0000	Healthcare support occupations
33-0000	Protective service occupations
35-0000	Food preparation and service related occupations
37-0000	Building and grounds cleaning and maintenance occupations
39-0000	Personal care and service occupations
41-0000	Sales and related occupations
43-0000	Office and administrative support occupations
45-0000	Farming, fishing, and forestry occupations
47-0000	Construction and extraction occupations
49-0000	Installation, maintenance, and repair occupations
51-0000	Production occupations
53-0000	Transportation and material moving occupations
55-0000	Military-specific occupations

Exhibit 3. **Intermediate-level Standard Occupational Classification (SOC) grouping**

SOC code	Intermediate grouping
11-13-000	Management, business, and financial
15-29-000	Professional and related
31-39-000	Service
41-0000	Sales and related
43-0000	Office and administrative support
45-0000	Farming, fishing, and forestry
47-0000	Construction and extraction
49-0000	nstallation, maintenance, and repair
51-0000	Production
53-0000	Transportation and material moving
55-0000	Military

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[6] Esther Pearce, "History of the Standard Industrial Classification," unpublished memorandum (Washington, Office of Statistical Standards, Bureau of the Budget, Executive Office of the President, July 10 1957).

[7] For a full background discussion of many of the drawbacks of the SIC, refer to the series of *Issues Papers* published by the Economic Classification Policy Committee: "No. 1: Conceptual Issues," February 1993; "No. 2: Aggregation Structures and Hierarchies," February 1993; "No. 3: Collectibility Issues," May 1993; "No. 4: Criteria for Determining Industries," October 1993; "No. 5: The Impact of Classification Revisions on Time Series," July 1993; and "No. 6: Services Classifications," February 1993.

[8] *North American Industry Classification System* (Washington, U.S. Office of Management and Budget, 1997).

[9] *New Data for a New Economy* (Washington, Economic Classification Policy Committee, 1997).

[10] See *Standard Occupational Classification Manual, 2000* (Washington, U.S. Office of Management and Budget, 2000); and J.W. Cunningham, Donald W. Drewes, and Thomas Powell, "Framework For A Revised Standard Occupational Classification," Paper presented before the Standard Occupational Classification Revision Policy Committee, Seminar on Research Findings, Apr. 11, 1995, pp. 69 and 91. Tasks generally are specified in employer position descriptions and as part of job titles in the Dictionary of Occupational Titles and the O*NET.

[11] Peter Capelli, "Conceptual Issues in Developing a System for Classifying Occupations," Paper presented before the Standard Occupational Classification Revision Policy Committee, Seminar of Research Findings, Apr. 11, 1995, pp.13-14

[12] Capelli, "Conceptual Issues," p. 8.

[13] Capelli, "Conceptual Issues," p. 10.

[14] Or other differences. For example, psychiatrists, clinical psychologists, mental health social workers, and substance abuse and behavior disorder counselors all have some common job tasks, but each is generally classified with occupations that have similar education backgrounds and licensing. Location or population served may also be factors, for example, to distinguish between elementary, secondary, college and university, and adult education teachers.

[15] James G. Scoville, *The Job Content of the U.S. Economy 1940-70* (New York, McGraw Hill Book Company, 1969), pp. 18-19.

[16] In 1996, the BLS occupational projections program grouped occupations by 13 levels of education and training categories, ranging from professional or doctoral degree to short-term on-the-job training.

[17] Operated by the State employment services. See *Dictionary of Occupational Titles, 4th ed.* (Washington, U.S. Department of Labor, Employment and Training Administration, 1977), pp. ix and xiv.

[18] See, for example, Paulette Meleen and others, *Identifying and Planning for New and Emerging Occupations: A Suggested Guide* Belmont, MA, Contract Research Corporation, 1976.)

[19] During the early years of computers, responsibility for education and training re-

sided almost exclusively with computer manufacturers, who provided it to the staffs of their customers. Educational institutions lacked both expensive computer equipment and the people qualified to teach other to use it.

[20] Trade and transportation industries were split; extraction of minerals and public service, not elsewhere classified (including protective service occupations) became separate industry groups; and clerical occupations, except those related to transportation, were placed in a separate group.

[21] While there is little direct reference to social status in most census publications, a report by Dr. Alba M. Edwards, *Comparative Occupations Statistics for the United States, 1870 to 1940*, pp. 176-77, provides a much more socioeconomic approach. Edwards offers a modified classification to provide a closer approximation to socioeconomic class:

Professional persons

Proprietors, managers, and officials (including farmers)

Clerks and kindred (including sales) workers

Skilled workers and foremen

Semiskilled workers

Unskilled workers, including laborers and servant classes

The service worker categories are eliminated, with household workers included with unskilled workers, police and firemen with skilled workers, and most others with semiskilled workers. The goal was a classification more useful for analyzing social and economic problems.

[22] Clerical and sales were separated in 1950 and transportation equipment operatives were separated from operatives, except transportation, in 1970.

[23] This may be the most heterogeneous group in terms of work function, but the common element in this group is "performs advisory, administrative, or research work which is based upon the established principles of a profession or science... and requires ...training equivalent to that represented by graduation for a college or university...or extensive practical experience." See *Classified Index of Occupations* (Bureau of the Census, 1940), p. 2. This group was renamed professional, technical, and kindred in 1950.

[24] See Population, the Labor Force (sample Statistics) Occupational Characteristics, Table 19, Occupation of Employed Persons by Industry and Sex for the United States, March 1940. It showed 116 occupations for men and 52 for women, by 132 industries.

[25] See *BLS Handbook of Methods*, Bulletin 2490 (Bureau of Labor Statistics, April 1997), pp. 125-26.

[26] The only exceptions were engineers, and mechanics and repairmen.

[27] *Standard Occupational Classification Manual 2000*, p. xii.

[28] The 1980 SOC had 22.

[29] See Edwards, *Comparative Occupations Statistics*, p. 109, fn. 130.

[30] In 1920, titles such as auto mechanic and auto repairer were placed in an other mechanic category.

[31] Automotive engineers, which also appeared as a title in 1920 under mechanical engineers, never became a separate occupation.

[32] C. Joseph Pusateri, *A History of American Business* (Arlington Heights, IL, Harlan Davidson, Inc., 1984), p. 280.

[33] One of the twelve, computer (hardware) engineers, is classified under engineers and another, computer and information systems managers, under management occupations.

[34] Engineering managers are under management occupations.

[35] No *Classified Index* is available for 1900; these titles are listed in the 1910 *Index*, which is based on the occupations returned at the 1900 census, supplemented with about 400 other occupations added in the 1910 census.

[36] Ibid.

[37] There also was a vast increase in the number of office and administrative support (clerical) occupations between 1900 and 2000.

[38] With support from the National Science Foundation.

Annex A.

The first NAICS-based data collection effort

The first look that NAICS users have had at data developed under the new industry classification system is the 1997 Economic Census.[1] Beginning in early 1999 with the *Advance Report*, the U.S. Census Bureau has maintained a demanding schedule that culminated early in 2001 with the full release of the 1997 Economic Census. For the first time, all of the data from this major periodic effort are being released on the Internet to facilitate their dissemination and use. Table A-1 presents a sample of the data, sorted by major NAICS sector.

From any of the industry sectors in table A-1, the analyst can move down to the subsector level. For example, the subsectors underlying the NAICS information sector are presented in table A-2.

Finally, the subsector data can be further subdivided into industry groups (four-digit NAICS) and into international (five-digit) and U.S. (six-digit) industries. Table A-3 shows what the data look like for information subsector 514—information services and data processing services.

Table A-1. Economic Census summary statistics, 1997

NAICS code	Description	Establishments	Sales, receipts, or shipments ($000s)	Annual payroll ($000s)	Paid employees
21	Mining	25,000	173,988,778	20,798,257	509,006
22	Utilities	15,513	411,713,327	36,594,684	702,703
23	Construction	656,434	858,581,046	174,184,604	5,664,840
31-33	Manufacturing	363,753	3,842,061,405	572,101,070	16,888,016
42	Wholesale trade	453,470	4,059,657,778	214,915,405	5,796,557
44-45	Retail trade	1,118,447	2,460,886,012	237,195,503	13,991,103
48-49	Transportation and warehousing	178,025	318,245,044	82,346,182	2,920,777
51	Information	114,475	623,213,854	129,481,577	3,066,167
52	Finance and insurance	395,203	2,197,771,283	264,551,401	5,835,214
53	Real estate and rental and leasing	288,273	240,917,556	41,590,766	1,702,420
54	Professional, scientific, and technical services	621,129	595,250,649	231,398,791	5,361,210
55	Management of companies and enterprises	47,319	92,473,059	154,177,673	2,617,527
56	Administrative support and waste management	276,393	295,936,350	137,336,983	7,347,366
61	Educational services	40,936	20,439,028	6,364,527	321,073
62	Health care and social assistance	645,853	585,054,001	378,205,694	13,561,579
71	Arts, entertainment, and recreation	99,099	104,715,028	32,787,273	1,587,660
72	Accommodation and food services	545,068	350,399,194	97,007,396	9,451,226
81	Other services (except public administration)	519,715	265,897,685	65,520,112	3,256,178
	Auxiliaries, excluding corporate, subsidiary, and regional managing	12,930	11,275,968	33,114,319	792,370

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All of these data are accompanied by masses of documentation and definitions, SIC-based data for 1992 and 1997, and detailed bridge tables allowing the data user to go backwards and forwards from NAICS to SIC and vice versa. To fully appreciate the breadth and depth of the data associated with the 1997 Economic Census, and to begin to appreciate the many ramifications of the NAICS industry sectoring scheme, the reader should plan on spending significant amounts of time at the Census Bureau Web site pages dedicated both to NAICS (**http://www.census.gov/epcd/www/naics.html**) and to the 1997 Economic Census (**http://www.census.gov/epcd/www/econ97.html**).

[1] *The Economic Census '97—Two Moments of Truth: 1954 and 1997* (Census Bureau, 1998).

Table A-2. Economic Census, Information subsector statistics, 1997

NAICS code	Description	Establishments	Sales, receipts, or shipments ($000s)	Annual payroll ($000s)	Paid employees
51	Information	114,475	623,213,854	129,481,577	3,066,167
511	Publishing industries	33,896	179,035,423	43,358,072	1,006,214
512	Motion picture and sound recording industries	22,204	55,925,533	9,392,048	275,981
51	Broadcasting and Telecommunications	43,480	346,315,686	63,479,623	1,434,455
514	Information services and data processing services	14,895	41,937,212	13,251,834	349,517

Table A-3. Economic Census, Information services industry statistics, 1997

NAICS code	Description	Establishments	Sales, receipts, or shipments ($000s)	Annual payroll ($000s)	Paid employees
514	Information services and data processing services	14,895	41,937,212	13,251,834	349,517
5141	Information services	7,307	11,100,567	3,477,977	87,267
51411	News syndicates	527	1,402,374	465,486	9,483
51412	Libraries and archives	2,298	860,933	373,164	22,044
51419	Other information services	4,482	8,837,260	2,639,347	55,740
514191	Online information services	4,165	8,042,568	2,355,992	49,935
514199	All other information services	317	794,692	283,355	5,805
5142	Data processing services	7,588	30,836,645	9,773,857	262,250

Technological Timeline

1900	Kodak introduces $1 Brownie cameras
1901	First trans-Atlantic radio signal
1903	First flight at Kitty Hawk
1907	First electric washing machine
1913	Henry Ford creates assembly line
1914	Panama Canal officially opened
1920	First commercial radio broadcast aired
1923	Talking movies invented
1926	Robert Goddard fires his first liquid-fuel rocket
1927	Lindbergh flies solo across the Atlantic
	Television (TV) invented
1928	Penicillin discovered
1931	Empire State Building completed
1932	Air conditioning invented
1939	Helicopter invented
	Prototype digital computer
1945	Atomic bomb
	First computer built
1947	Microwave oven invented
	Chuck Yeager breaks the sound barrier
1950	First organ transplant
1951	Color TV introduced
	First commercial computer (UNIVAC I)
1952	Polio vaccine created
1953	DNA discovered
1956	TV remote control invented
	Velcro introduced
1957	Soviet satellite, Sputnik, launches Space Age
1958	NASA founded
1960	Lasers invented
1961	Soviets launch first man in space
1965	Minicomputer
1967	First heart transplant
1969	Astronaut walks on the Moon
	ARPANET, the precursor of the Internet, created
1970	Computer floppy disks introduced
	Optical fiber
1971	Videocassette recorder (VCR) introduced
1972	Pocket calculators introduced
1974	Bar Code (UPC)
1976	Supercomputer
1978	First test-tube baby born
1979	Nuclear accident at Three Mile Island
1981	Personal computer (PC) introduced by IBM
1982	Artificial heart
1985	First approval for selling genetically altered organism
1990	Hubble Telescope launched into space
1993	Use of the Internet grows exponentially
1994	Channel Tunnel (Chunnel) opens, connecting Britain and France
1997	Pathfinder sends back images of Mars
	Scientists clone sheep, Dolly
1999	Fear of Y2K (Year 2000) Bug

APPENDIX

Statistical Tables

The tables in this appendix to the *Report on the American Workforce* are organized along thematic lines, rather than by the program office responsible for collecting them. This extends the ideas suggested In Background Paper No. 22, National Commission on Employment and Unemployment Statistics, "Improving the Presentation of Employment and Unemployment Statistics." Unless noted otherwise, data are from the Bureau of Labor Statistics, U.S. Department of Labor. Technical descriptions of their sources, methods, and limitations are found in *BLS Handbook of Methods*, Bulletin 2490 (1997).

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Table 1. **Selected labor market indicators: Current conditions, annual averages, 1948-2000**

Year	Employment (thousands)[1]	Employment-population ratio[1] (percent)	Nonfarm payroll employment (thousands)	Aggregate hours index, private nonfarm (1982=100)	Total hours of nonfarm wage and salary workers (millions)	Goods-producing employment (thousands)	Employment Cost Index, compensation, private nonfarm[2] (June 1989=100)	Unemployment rate[1] percent	Insured unemployment as percent of covered employment[3]
1948	58,343	56.6	44,866	–	92,470	18,774	–	3.8	3.0
1949	57,651	55.4	43,754	–	88,958	17,565	–	5.9	6.2
1950	58,918	56.1	45,197	–	92,514	18,506	–	5.3	4.5
1951	59,961	57.3	47,819	–	98,277	19,959	–	3.3	2.7
1952	60,250	57.3	48,793	–	99,972	20,198	–	3.0	2.8
1953	61,179	57.1	50,202	–	102,361	21,074	–	2.9	2.7
1954	60,109	55.5	48,990	–	98,885	19,751	–	5.5	5.2
1955	62,170	56.7	50,641	–	103,133	20,513	–	4.4	3.4
1956	63,799	57.5	52,369	–	106,031	21,104	–	4.1	3.1
1957	64,071	57.1	52,655	–	105,893	20,967	–	4.3	3.6
1958	63,036	55.4	51,322	–	101,997	19,513	–	6.8	6.5
1959	64,630	56.0	53,270	–	106,774	20,411	–	5.5	4.2
1960	65,778	56.1	54,189	–	108,050	20,434	–	5.5	4.7
1961	65,746	55.4	53,999	–	107,440	19,857	–	6.7	5.7
1962	66,702	55.5	55,549	–	110,966	20,451	–	5.5	4.3
1963	67,762	55.4	56,653	–	113,135	20,640	–	5.7	4.2
1964	69,305	55.7	58,283	75.8	116,153	21,005	–	5.2	3.7
1965	71,088	56.2	60,763	79.1	121,433	21,926	–	4.5	2.9
1966	72,895	56.9	63,901	82.5	127,289	23,158	–	3.8	2.2
1967	74,372	57.3	65,803	82.9	129,558	23,308	–	3.8	2.4
1968	75,920	57.5	67,897	84.9	132,921	23,737	–	3.6	2.2
1969	77,902	58.0	70,384	87.7	137,340	24,361	–	3.5	2.1
1970	78,678	57.4	70,880	86.3	136,445	23,578	–	4.9	3.4
1971	79,367	56.6	71,211	85.8	136,179	22,935	–	5.9	4.1
1972	82,153	57.0	73,675	89.2	141,269	23,668	–	5.6	3.0
1973	85,064	57.8	76,790	93.2	147,051	24,893	–	4.9	2.5
1974	86,794	57.8	78,265	93.2	148,423	24,794	–	5.6	3.4
1975	85,846	56.1	76,945	88.8	144,255	22,600	–	8.5	6.1
1976	88,752	56.8	79,382	92.3	149,040	23,352	–	7.7	4.4
1977	92,017	57.9	82,471	96.0	154,517	24,346	–	7.1	3.7
1978	96,048	59.3	86,697	100.7	162,169	25,585	–	6.1	2.8
1979	98,824	59.9	89,823	104.0	167,092	26,461	59.1	5.8	2.8
1980	99,303	59.2	90,406	102.8	166,885	25,658	64.8	7.1	3.9
1981	100,397	59.0	91,152	104.1	167,547	25,497	71.2	7.6	3.5
1982	99,526	57.8	89,544	100.0	163,573	23,812	75.8	9.7	4.7
1983	100,834	57.9	90,152	101.5	165,612	23,330	80.1	9.6	3.9
1984	105,005	59.5	94,408	107.7	174,500	24,718	84.0	7.5	2.7
1985	107,150	60.1	97,387	110.5	179,096	24,842	87.3	7.2	2.8
1986	109,597	60.7	99,344	112.3	182,067	24,533	90.1	7.0	2.8
1987	112,440	61.5	101,958	115.6	186,664	24,674	93.1	6.2	2.3
1988	114,968	62.3	105,209	119.3	192,980	25,125	97.6	5.5	2.0
1989	117,342	63.0	107,884	122.1	196,775	25,254	102.3	5.3	2.1
1990	118,793	62.8	109,403	123.0	198,955	24,905	107.0	5.6	2.4
1991	117,718	61.7	108,249	120.4	196,213	23,745	111.7	6.8	3.2
1992	118,492	61.5	108,601	121.2	197,378	23,231	115.6	7.5	3.1
1993	120,259	61.7	110,713	124.6	202,079	23,352	119.8	6.9	2.6
1994	123,060	62.5	114,163	130.0	208,614	23,908	123.5	6.1	2.4
1995	124,900	62.9	117,191	133.5	213,443	24,265	126.7	5.6	2.3
1996	126,708	63.2	119,608	136.7	218,181	24,493	130.6	5.4	–
1997	129,558	63.8	122,690	141.5	224,886	24,962	135.1	4.9	1.9
1998	131,463	64.1	125,865	145.1	230,877	25,414	139.8	4.5	1.8
1999	133,488	64.3	128,916	148.2	234,919	25,507	144.6	4.2	1.8
2000	135,208	64.5	131,759	151.6	240,672	25,709	150.9	4.0	1.7[p]

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of Employment and Earnings, a monthly periodical published by the Bureau of Labor Statistics.

[2] December.

[3] Data from Employment and Training Administration, U.S. Department of Labor.

Dash indicates data not available.

p=preliminary.

Table 2. **Selected labor market indicators: Cyclically sensitive conditions, annual averages, 1948-2000**

Year	Producer Price Index for crude non-food materials, less energy (1982=100)	Manufacturing		Unemployed[1]		Nonagricultural workers on part-time schedules for economic reasons, slack work or business conditions (in thousands)
		Average workweek	Average overtime hours	Less than 5 weeks (in thousands)	Job losers on temporary layoff as percent of civilian labor force	
1948	–	40.0	–	1,300	–	–
1949	–	39.1	–	1,756	–	–
1950	–	40.5	–	1,450	–	–
1951	–	40.6	–	1,177	–	–
1952	–	40.7	–	1,135	–	–
1953	–	40.5	–	1,142	–	–
1954	–	39.6	–	1,605	–	–
1955	–	40.7	–	1,335	–	905
1956	–	40.4	2.8	1,412	–	1,013
1957	–	39.8	2.3	1,408	–	1,180
1958	–	39.2	2.0	1,753	–	1,695
1959	–	40.3	2.7	1,585	–	1,078
1960	–	39.7	2.5	1,719	–	1,300
1961	–	39.8	2.4	1,806	–	1,429
1962	–	40.4	2.8	1,663	–	1,077
1963	–	40.5	2.8	1,751	–	1,060
1964	–	40.7	3.1	1,697	–	972
1965	–	41.2	3.6	1,628	–	868
1966	–	41.4	3.9	1,573	–	727
1967	–	40.6	3.4	1,634	0.5	979
1968	–	40.7	3.6	1,594	.4	794
1969	–	40.6	3.6	1,629	.4	838
1970	–	39.8	3.0	2,139	.8	1,126
1971	–	39.9	2.9	2,245	.9	1,245
1972	–	40.5	3.5	2,242	.7	1,079
1973	70.8	40.7	3.8	2,224	.5	1,067
1974	83.3	40.0	3.3	2,604	.8	1,339
1975	69.3	39.5	2.6	2,940	1.8	1,925
1976	80.2	40.1	3.1	2,844	1.1	1,550
1977	79.8	40.3	3.5	2,919	.9	1,472
1978	87.8	40.4	3.6	2,865	.7	1,391
1979	106.2	40.2	3.3	2,950	.8	1,518
1980	113.1	39.7	2.8	3,295	1.4	2,093
1981	111.7	39.8	2.8	3,449	1.3	2,251
1982	100.0	38.9	2.3	3,883	1.9	3,050
1983	105.3	40.1	3.0	3,570	1.6	2,684
1984	111.7	40.7	3.4	3,350	1.0	2,291
1985	104.9	40.5	3.3	3,498	1.0	2,273
1986	103.1	40.7	3.4	3,448	.9	2,305
1987	115.7	41.0	3.7	3,246	.8	2,201
1988	133.0	41.1	3.9	3,084	.7	2,199
1989	137.9	41.0	3.8	3,174	.7	2,143
1990	136.3	40.8	3.6	3,265	.8	2,409
1991	128.2	40.7	3.6	3,480	1.0	3,059
1992	128.4	41.0	3.8	3,376	1.0	3,094
1993	140.2	41.4	4.1	3,262	.9	3,033
1994	156.2	42.0	4.7	2,728	.7	2,311
1995	173.6	41.6	4.4	2,700	.8	2,346
1996	155.8	41.6	4.5	2,633	.8	2,263
1997	156.5	42.0	4.8	2,538	.7	2,167
1998	142.1	41.7	4.6	2,622	.6	1,997
1999	135.2	41.7	4.6	2,568	.6	1,861
2000	145.2	41.6	4.6	2,543	.6	1,835

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of Employment and Earnings, a monthly periodical published by the Bureau of Labor Statistics.

Dash indicates data not available.

Table 3. **Selected labor market indicators: Processes requiring additional time to complete the cycle, annual averages, 1948-2000**

Year	Consumer Price Index (CPI-U) for services (1982-84=100)	Unit labor costs business sector (1992=100)	Duration of unemployment (weeks)[1]	
			Mean	Median
1948	15.6	22.2	8.6	–
1949	16.4	22.0	10.0	–
1950	16.9	21.8	12.1	–
1951	17.8	23.2	9.7	–
1952	18.6	23.9	8.4	–
1953	19.4	24.5	8.0	–
1954	20.0	24.8	11.8	–
1955	20.4	24.4	13.0	–
1956	20.9	26.0	11.3	–
1957	21.8	26.9	10.5	–
1958	22.6	27.3	13.9	–
1959	23.3	27.4	14.4	–
1960	24.1	28.0	12.8	–
1961	24.5	28.1	15.6	–
1962	25.0	28.1	14.7	–
1963	25.5	28.0	14.0	–
1964	26.0	28.2	13.3	–
1965	26.6	28.2	11.8	–
1966	27.6	28.9	10.4	–
1967	28.8	29.9	8.7	2.3
1968	30.3	31.3	8.4	4.5
1969	32.4	33.3	7.8	4.4
1970	35.0	35.1	8.6	4.9
1971	37.0	35.8	11.3	6.3
1972	38.4	36.8	12.0	6.2
1973	40.1	38.8	10.0	5.2
1974	43.8	43.2	9.8	5.2
1975	48.0	46.1	14.2	8.4
1976	52.0	48.4	15.8	8.2
1977	56.0	51.4	14.3	7.0
1978	60.8	55.3	11.9	5.9
1979	67.5	60.7	10.8	5.4
1980	77.9	67.4	11.9	6.5
1981	88.1	72.4	13.7	6.9
1982	96.0	78.2	15.6	8.7
1983	99.4	78.6	20.0	10.1
1984	104.6	79.8	18.2	7.9
1985	109.9	82.1	15.6	6.8
1986	115.4	83.9	15.0	6.9
1987	120.2	86.7	14.5	6.5
1988	125.7	89.8	13.5	5.9
1989	131.9	91.3	11.9	4.8
1990	139.2	95.3	12.0	5.3
1991	146.3	98.7	13.7	6.8
1992	152.0	100.0	17.7	8.7
1993	157.9	101.9	18.0	8.3
1994	163.1	102.6	18.8	9.2
1995	168.7	104.1	16.6	8.3
1996	174.1	104.5	16.7	8.3
1997	179.4	105.3	15.8	8.0
1998	184.2	106.0	14.5	6.7
1999	188.8	109.9	13.4	6.4
2000	195.3	110.7	12.6	5.9

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of Employment and Earnings, monthly periodical published by the Bureau of Labor Statistics.

Dash indicates data not available.

Table 4. Civilian labor force for selected demographic groups, annual averages, 1948-2000

(In thousands)

Year	Total, 16 years and over	Men, 20 years and over	Women, 20 years and over	Both sexes, 16 to 19 years	White	Black and other	Black	Hispanic origin
1948	60,621	40,687	15,500	4,435	–	–	–	–
1949	61,286	41,022	15,978	4,288	–	–	–	–
1950	62,208	41,316	16,678	4,216	–	–	–	–
1951	62,017	40,655	17,259	4,103	–	–	–	–
1952	62,138	40,558	17,517	4,064	–	–	–	–
1953[1]	63,015	41,315	17,674	4,027	–	–	–	–
1954	63,643	41,669	17,997	3,976	56,816	6,825	–	
1955	65,023	42,106	18,825	4,092	58,085	6,942	–	–
1956	66,552	42,658	19,599	4,296	59,428	7,125	–	–
1957	66,929	42,780	19,873	4,275	59,754	7,174	–	–
1958	67,639	43,092	20,285	4,260	60,293	7,346	–	–
1959	68,369	43,289	20,587	4,492	60,952	7,416	–	–
1960[1]	69,628	43,603	21,185	4,841	61,915	7,716	–	–
1961	70,459	43,860	21,664	4,936	62,656	7,804	–	–
1962[1]	70,614	43,831	21,868	4,916	62,750	7,864	–	–
1963	71,833	44,222	22,473	5,139	63,830	8,003	–	–
1964	73,091	44,604	23,098	5,388	64,921	8,170	–	–
1965	74,455	44,857	23,686	5,910	66,137	8,321	–	–
1966	75,770	44,788	24,431	6,558	67,276	8,499	–	–
1967	77,347	45,354	25,475	6,521	68,699	8,649	–	–
1968	78,737	45,852	26,266	6,619	69,976	8,759	–	–
1969	80,734	46,351	27,413	6,970	71,778	8,955	–	–
1970	82,771	47,220	28,301	7,249	73,556	9,218	–	–
1971	84,382	48,009	28,904	7,470	74,963	9,418	–	–
1972[1]	87,034	49,079	29,901	8,054	77,275	9,761	8,707	–
1973[1]	89,429	49,932	30,991	8,507	79,151	10,280	8,976	–
1974	91,949	50,879	32,201	8,871	81,281	10,668	9,167	–
1975	93,775	51,494	33,410	8,870	82,831	10,942	9,263	–
1976	96,158	52,288	34,814	9,056	84,767	11,391	9,561	–
1977	99,009	53,348	36,310	9,351	87,141	11,867	9,932	–
1978[1]	102,251	54,471	38,128	9,652	89,634	12,617	10,432	–
1979	104,962	55,615	39,708	9,638	91,923	13,038	10,678	–
1980	106,940	56,455	41,106	9,378	93,600	13,340	10,865	6,146
1981	108,670	57,197	42,485	8,988	95,052	13,618	11,086	6,492
1982	110,204	57,980	43,699	8,526	96,143	14,061	11,331	6,734
1983	111,550	58,744	44,636	8,171	97,021	14,529	11,647	7,033
1984	113,544	59,701	45,900	7,943	98,492	15,052	12,033	7,451
1985	115,461	60,277	47,283	7,901	99,926	15,535	12,384	7,898
1986[1]	117,834	61,320	48,589	7,926	101,801	16,034	12,654	8,076
1987	119,865	62,095	49,783	7,988	103,290	16,576	12,993	8,541
1988	121,669	62,768	50,870	8,031	104,756	16,913	13,205	8,982
1989	123,869	63,704	52,212	7,954	106,355	17,514	13,497	9,323
1990[1]	125,840	64,916	53,131	7,792	107,447	18,393	13,740	10,720
1991	126,346	65,374	53,708	7,265	107,743	18,604	13,797	10,920
1992	128,105	66,213	54,796	7,096	108,837	19,268	14,162	11,338
1993	129,200	66,642	55,388	7,170	109,700	19,500	14,225	11,610
1994[1]	131,056	66,921	56,655	7,481	111,082	19,974	14,502	11,975
1995	132,304	67,324	57,215	7,765	111,950	20,354	14,817	12,267
1996	133,943	68,044	58,094	7,806	113,108	20,835	15,134	12,774
1997[1]	136,297	69,166	59,198	7,932	114,693	21,604	15,529	13,796
1998[1]	137,673	69,715	59,702	8,256	115,415	22,259	15,982	14,317
1999[1]	139,368	70,194	60,840	8,333	116,509	22,859	16,365	14,665
2000[1]	140,863	70,930	61,565	8,369	117,574	23,289	16,603	15,368

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of Employment and Earnings, a monthly periodical published by the Bureau of Labor Statistics.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups. Dash indicates data are not available.

Table 5. **Civilian labor force participation rates for selected demographic groups, annual averages, 1948-2000**

(Percent)

Year	Total, 16 years and over	Men, 20 years and over	Women, 20 years and over	Both sexes, 16 to 19 years	White	Black and other	Black	Hispanic origin
1948	58.8	86.6	31.8	52.5	–	–	–	–
1949	58.9	86.5	32.3	52.2	–	–	–	–
1950	59.2	86.4	33.3	51.8	–	–	–	–
1951	59.2	86.2	34.0	52.2	–	–	–	–
1952	59.0	86.3	34.1	51.3	–	–	–	–
1953[1]	58.9	86.0	33.9	50.2				
1954	58.8	87.8	34.2	48.3	58.2	64.0	–	–
1955	59.3	87.6	35.4	48.9	58.7	64.2		
1956	60.0	87.6	36.4	50.9	59.4	64.9	–	–
1957	59.6	86.9	36.5	49.6	59.1	64.4	–	–
1958	59.5	86.6	36.9	47.4	58.9	64.8	–	–
1959	59.3	86.3	37.1	46.7	58.7	64.3	–	–
1960[1]	59.4	86.0	37.6	47.5	58.8	64.5	–	–
1961	59.3	85.7	38.0	46.9	58.8	64.1	–	
1962[1]	58.8	84.8	37.8	46.1	58.3	63.2	–	–
1963	58.7	84.4	38.3	45.2	58.2	63.0	–	–
1964	58.7	84.2	38.9	44.5	58.2	63.1	–	–
1965	58.9	83.9	39.4	45.7	58.4	62.9	–	–
1966	59.2	83.6	40.1	48.2	58.7	63.0	–	–
1967	59.6	83.4	41.1	48.4	59.2	62.8	–	–
1968	59.6	83.1	41.6	48.3	59.3	62.2	–	–
1969	60.1	82.8	42.7	49.4	59.9	62.1	–	–
1970	60.4	82.6	43.3	49.9	60.2	61.8	–	–
1971	60.2	82.1	43.3	49.7	60.1	60.9	–	–
1972[1]	60.4	81.6	43.7	51.9	60.4	60.2	59.9	–
1973[1]	60.8	81.3	44.4	53.7	60.8	60.5	60.2	–
1974	61.3	81.0	45.3	54.8	61.4	60.3	59.8	–
1975	61.2	80.3	46.0	54.0	61.5	59.6	58.8	–
1976	61.6	79.8	47.0	54.5	61.8	59.8	59.0	–
1977	62.3	79.7	48.1	56.0	62.5	60.4	59.8	–
1978[1]	63.2	79.8	49.6	57.8	63.3	62.2	61.5	–
1979	63.7	79.8	50.6	57.9	63.9	62.2	61.4	–
1980	63.8	79.4	51.3	56.7	64.1	61.7	61.0	64.0
1981	63.9	79.0	52.1	55.4	64.3	61.3	60.8	64.1
1982	64.0	78.7	52.7	54.1	64.3	61.6	61.0	63.6
1983	64.0	78.5	53.1	53.5	64.3	62.1	61.5	63.8
1984	64.4	78.3	53.7	53.9	64.6	62.6	62.2	64.9
1985	64.8	78.1	54.7	54.5	65.0	63.3	62.9	64.6
1986[1]	65.3	78.1	55.5	54.7	65.5	63.7	63.3	65.4
1987	65.6	78.0	56.2	54.7	65.8	64.3	63.8	66.4
1988	65.9	77.9	56.8	55.3	66.2	64.0	63.8	67.4
1989	66.5	78.1	57.7	55.9	66.7	64.7	64.2	67.6
1990[1]	66.5	78.2	58.0	53.7	66.9	64.4	64.0	67.4
1991	66.2	77.7	57.9	51.6	66.6	63.8	63.3	66.5
1992	66.4	77.7	58.5	51.3	66.8	64.6	63.9	66.8
1993	66.3	77.3	58.5	51.5	66.8	63.8	63.2	66.2
1994[1]	66.6	76.8	59.3	52.7	67.1	63.9	63.4	66.1
1995	66.6	76.7	59.4	53.5	67.1	64.3	63.7	65.8
1996	66.8	76.8	59.9	52.3	67.2	64.6	64.1	66.5
1997[1]	67.1	77.0	60.5	51.6	67.5	65.2	64.7	67.9
1998[1]	67.1	76.8	60.4	52.8	67.3	66.0	65.6	67.9
1999[1]	67.1	76.7	60.7	52.0	67.3	65.9	65.8	67.7
2000[1]	67.2	76.6	60.9	52.2	67.4	66.0	65.8	68.6

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of Employment and Earnings, a monthly periodical published by the Bureau of Labor Statistics.

Dash indicates data not available.

Table 6. **Labor force participation rates of women by presence and age of children, March 1980-2000**

(Percent)

Year	Total women	With no children under 18	With children under 18			
			Total	6 to 17 years	With children under 6	
					Total	3 to 5 years	Under 3 years
1980	51.1	48.1	56.6	64.3	46.8	54.5	41.9
1981	52.0	48.7	58.1	65.5	48.9	56.1	44.3
1982	52.1	48.6	58.5	65.8	49.9	56.5	45.6
1983	52.3	48.7	58.9	66.3	50.5	57.7	46.0
1984	53.2	49.3	60.5	68.1	52.1	58.8	47.6
1985	54.5	50.4	62.1	69.9	53.5	59.5	49.5
1986	54.7	50.5	62.8	70.4	54.4	59.9	50.8
1987	55.4	50.5	64.7	72.0	56.7	62.4	52.9
1988	56.0	51.2	65.1	73.3	56.1	61.5	52.4
1989	56.7	51.9	65.7	74.2	56.7	63.1	52.4
1990	57.2	52.3	66.7	74.7	58.2	65.3	53.6
1991	57.0	52.0	66.6	74.4	58.4	64.4	54.5
1992	57.4	52.3	67.2	75.9	58.0	63.3	54.5
1993	57.2	52.1	66.9	75.4	57.9	63.7	53.9
1994[1]	58.4	53.1	68.4	76.0	60.3	64.9	57.1
1995	58.7	52.9	69.7	76.4	62.3	67.1	58.7
1996	58.8	53.0	70.2	77.2	62.3	66.9	59.0
1997[1]	59.8	53.6	72.1	78.1	65.0	69.3	61.8
1998[1]	60.2	54.1	72.3	78.4	65.2	69.3	62.2
1999[1]	60.2	54.3	72.1	78.5	64.4	69.5	60.7
2000[1]	60.7	54.8	72.9	79.0	65.3	71.5	61.0

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of Employment and Earnings, a monthly periodical published by the Bureau of Labor Statistics.

NOTE: Data refer to single, married, spouse present, and widowed, divorced, and separated women.

Table 7. **Percent distribution of the labor force of women by presence and age of children, March 1980-2000**

(Percent)

Year	Total women	With no children under 18	With children under 18				
			Total	6 to 17 years	With children under 6		
					Total	3 to 5 years	Under 3 years
1980	100.0	60.4	39.6	25.0	14.6	6.6	7.9
1981	100.0	60.3	39.7	24.8	14.9	6.7	8.2
1982	100.0	60.2	39.8	24.2	15.6	6.9	8.6
1983	100.0	60.4	39.6	23.7	15.9	7.0	8.9
1984	100.0	60.3	39.7	23.4	16.3	7.3	8.9
1985	100.0	60.6	39.4	23.2	16.1	7.1	9.0
1986	100.0	60.1	39.9	23.3	16.5	7.3	9.3
1987	100.0	59.6	40.4	23.5	17.0	7.4	9.6
1988	100.0	60.1	39.9	23.5	16.4	7.2	9.2
1989	100.0	60.3	39.7	23.2	16.6	7.4	9.2
1990	100.0	60.5	39.5	22.8	16.7	7.4	9.3
1991	100.0	60.4	39.6	22.5	17.1	7.5	9.6
1992	100.0	60.2	39.8	23.0	16.7	7.4	9.3
1993	100.0	59.9	40.1	23.4	16.7	7.4	9.3
1994[1]	100.0	59.4	40.6	23.2	17.3	7.7	9.6
1995	100.0	59.2	40.8	23.6	17.2	7.8	9.3
1996	100.0	59.6	40.4	23.6	16.8	7.6	9.2
1997[1]	100.0	59.3	40.7	23.8	16.9	7.6	9.3
1998[1]	100.0	59.9	40.1	23.5	16.6	7.4	9.2
1999[1]	100.0	60.7	39.3	23.4	15.9	7.2	8.7
2000[1]	100.0	60.9	39.1	23.5	15.6	7.0	8.6

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

NOTE: Data refer to single, married, spouse present, and widowed, divorced, and separated women.

Table 8. **Employment for selected demographic groups, annual averages, 1948-2000**

(In thousands)

Year	Total, 16 years and over	Men, 20 years and over	Women, 20 years and over	Both sexes, 16 to 19 years	White	Black and other	Black	Hispanic origin
1948	58,343	39,382	14,936	4,026	–	–	–	–
1949	57,651	38,803	15,137	3,712	–	–	–	–
1950	58,918	39,394	15,824	3,703	–	–	–	–
1951	59,961	39,626	16,570	3,767	–	–	–	–
1952	60,250	39,578	16,958	3,719	–	–	–	–
1953[1]	61,179	40,296	17,164	3,720	–	–	–	–
1954	60,109	39,634	17,000	3,475	53,957	6,152	–	–
1955	62,170	40,526	18,002	3,642	55,833	6,341	–	–
1956	63,799	41,216	18,767	3,818	57,269	6,534	–	–
1957	64,071	41,239	19,052	3,778	57,465	6,604	–	–
1958	63,036	40,411	19,043	3,582	56,613	6,423	–	–
1959	64,630	41,267	19,524	3,838	58,006	6,623	–	–
1960[1]	65,778	41,543	20,105	4,129	58,850	6,928	–	–
1961	65,746	41,342	20,296	4,108	58,913	6,833	–	–
1962[1]	66,702	41,815	20,693	4,195	59,698	7,003	–	–
1963	67,762	42,251	21,257	4,255	60,622	7,140	–	–
1964	69,305	42,886	21,903	4,516	61,922	7,383	–	–
1965	71,088	43,422	22,630	5,036	63,446	7,643	–	–
1966	72,895	43,668	23,510	5,721	65,021	7,877	–	–
1967	74,372	44,294	24,397	5,682	66,361	8,011	–	–
1968	75,920	44,859	25,281	5,781	67,750	8,169	–	–
1969	77,902	45,388	26,397	6,117	69,518	8,384	–	–
1970	78,678	45,581	26,952	6,144	70,217	8,464	–	–
1971	79,367	45,912	27,246	6,208	70,878	8,488	–	–
1972[1]	82,153	47,130	28,276	6,746	73,370	8,783	7,802	–
1973[1]	85,064	48,310	29,484	7,271	75,708	9,356	8,128	–
1974	86,794	48,922	30,424	7,448	77,184	9,610	8,203	–
1975	85,846	48,018	30,726	7,104	76,411	9,435	7,894	–
1976	88,752	49,190	32,226	7,336	78,853	9,899	8,227	–
1977	92,017	50,555	33,775	7,688	81,700	10,317	8,540	–
1978[1]	96,048	52,143	35,836	8,070	84,936	11,112	9,102	–
1979	98,824	53,308	37,434	8,083	87,259	11,565	9,359	–
1980	99,303	53,101	38,492	7,710	87,715	11,588	9,313	5,527
1981	100,397	53,582	39,590	7,225	88,709	11,688	9,355	5,813
1982	99,526	52,891	40,086	6,549	87,903	11,624	9,189	5,805
1983	100,834	53,487	41,004	6,342	88,893	11,941	9,375	6,072
1984	105,005	55,769	42,793	6,444	92,120	12,885	10,119	6,651
1985	107,150	56,562	44,154	6,434	93,736	13,414	10,501	6,888
1986[1]	109,597	57,569	45,556	6,472	95,660	13,937	10,814	7,219
1987	112,440	58,726	47,074	6,640	97,789	14,652	11,309	7,790
1988	114,968	59,781	48,383	6,805	99,812	15,156	11,658	8,250
1989	117,342	60,837	49,745	6,759	101,584	15,757	11,953	8,573
1990[1]	118,793	61,678	50,535	6,581	102,261	16,533	12,175	9,845
1991	117,718	61,178	50,634	5,906	101,182	16,536	12,074	9,828
1992	118,492	61,496	51,328	5,669	101,669	16,823	12,151	10,027
1993	120,259	62,355	52,099	5,805	103,045	17,214	12,382	10,361
1994[1]	123,060	63,294	53,606	6,161	105,190	17,870	12,835	10,788
1995	124,900	64,085	54,396	6,419	106,490	18,409	13,279	11,127
1996	126,708	64,897	55,311	6,500	107,808	18,900	13,542	11,642
1997[1]	129,558	66,284	56,613	6,661	109,856	19,701	13,969	12,726
1998[1]	131,463	67,135	57,278	7,051	110,931	20,532	14,556	13,291
1999[1]	133,488	67,761	58,555	7,172	112,235	21,253	15,056	13,720
2000[1]	135,208	68,580	59,352	7,276	113,475	21,733	15,334	14,492

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

NOTE: Detail for the above race and Hispanic-origin groups will not sum to totals because data for the "other races" group are not presented and Hispanics are included in both the white and black population groups. Dash indicates data are not available.

Table 9. **Employment-population ratios for selected demographic groups, annual averages, 1948-2000**

(Percent)

Year	Total, 16 years and over	Men, 20 years and over	Women, 20 years and over	Both sexes, 16 to 19 years	White	Black and other	Black	Hispanic origin
1948	56.6	85.8	30.7	47.7	–	–	–	–
1949	55.4	83.7	30.6	45.2	–	–	–	
1950	56.1	84.2	31.6	45.5	–	–	–	–
1951	57.3	86.1	32.6	47.9	–	–	–	–
1952	57.3	86.2	33.0	46.9	–	–	–	
1953[1]	57.1	85.9	32.9	46.4	–	–	–	–
1954	55.5	83.5	32.3	42.3	55.2	58.0	–	–
1955	56.7	84.3	33.8	43.5	56.5	58.7	–	–
1956	57.5	84.6	34.9	45.3	57.3	59.5	–	–
1957	57.1	83.8	35.0	43.9	56.8	59.3	–	–
1958	55.4	81.2	34.6	39.9	55.3	56.7	–	–
1959	56.0	82.3	35.1	39.9	55.9	57.5	–	–
1960[1]	56.1	81.9	35.7	40.5	55.9	57.9	–	–
1961	55.4	80.8	35.6	39.1	55.3	56.2	–	–
1962[1]	55.5	80.9	35.8	39.4	55.4	56.3	–	–
1963	55.4	80.6	36.3	37.4	55.3	56.2	–	–
1964	55.7	80.9	36.9	37.3	55.5	57.0	–	–
1965	56.2	81.2	37.6	38.9	56.0	57.8	–	–
1966	56.9	81.5	38.6	42.1	56.8	58.4	–	–
1967	57.3	81.5	39.3	42.2	57.2	58.2	–	–
1968	57.5	81.3	40.0	42.2	57.4	58.0	–	–
1969	58.0	81.1	41.1	43.4	58.0	58.1	–	–
1970	57.4	79.7	41.2	42.3	57.5	56.8	–	–
1971	56.6	78.5	40.9	41.3	56.8	54.9	–	–
1972[1]	57.0	78.4	41.3	43.5	57.4	54.1	53.7	–
1973[1]	57.8	78.6	42.2	45.9	58.2	55.0	54.5	–
1974	57.8	77.9	42.8	46.0	58.3	54.3	53.5	–
1975	56.1	74.8	42.3	43.3	56.7	51.4	50.1	–
1976	56.8	75.1	43.5	44.2	57.5	52.0	50.8	–
1977	57.9	75.6	44.8	46.1	58.6	52.5	51.4	–
1978[1]	59.3	76.4	46.6	48.3	60.0	54.7	53.6	–
1979	59.9	76.5	47.7	48.5	60.6	55.2	53.8	–
1980	59.2	74.6	48.1	46.6	60.0	53.6	52.3	57.6
1981	59.0	74.0	48.6	44.6	60.0	52.6	51.3	57.4
1982	57.8	71.8	48.4	41.5	58.8	50.9	49.4	54.9
1983	57.9	71.4	48.8	41.5	58.9	51.0	49.5	55.1
1984	59.5	73.2	50.1	43.7	60.5	53.6	52.3	57.9
1985	60.1	73.3	51.0	44.4	61.0	54.7	53.4	57.8
1986[1]	60.7	73.3	52.0	44.6	61.5	55.4	54.1	58.5
1987	61.5	73.8	53.1	45.5	62.3	56.8	55.6	60.5
1988	62.3	74.2	54.0	46.8	63.1	57.4	56.3	61.9
1989	63.0	74.5	54.9	47.5	63.8	58.2	56.9	62.2
1990[1]	62.8	74.3	55.2	45.3	63.7	57.9	56.7	61.9
1991	61.7	72.7	54.6	42.0	62.6	56.7	55.4	59.8
1992	61.5	72.1	54.8	41.0	62.4	56.4	54.9	59.1
1993	61.7	72.3	55.0	41.7	62.7	56.3	55.0	59.1
1994[1]	62.5	72.6	56.2	43.4	63.5	57.2	56.1	59.5
1995	62.9	73.0	56.5	44.2	63.8	58.1	57.1	59.7
1996	63.2	73.2	57.0	43.5	64.1	58.6	57.4	60.6
1997[1]	63.8	73.7	57.8	43.4	64.6	59.4	58.2	62.6
1998[1]	64.1	73.9	58.0	45.1	64.7	60.9	59.7	63.1
1999[1]	64.3	74.0	58.5	44.7	64.8	61.3	60.6	63.4
2000[1]	64.5	74.1	58.7	45.4	65.1	61.6	60.8	64.7

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

Dash indicates data not available.

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Table 10. **Employed persons by major occupation, annual averages, 1987-2000**
(In thousands)

Occupation	1987	1988	1989	1990[1]	1991	1992	1993
Total	112,440	114,968	117,342	118,793	117,718	118,492	120,259
Managerial and professional specialty	27,742	29,190	30,398	30,602	30,934	31,085	32,231
Executive, administrative, and managerial	13,316	14,216	14,848	14,802	14,904	14,722	15,338
Professional specialty	14,426	14,974	15,550	15,800	16,030	16,363	16,893
Technical, sales, and administrative support	35,082	35,532	36,127	36,913	36,318	37,048	37,058
Technicians and related support	3,346	3,521	3,645	3,866	3,814	4,277	4,039
Sales	13,480	13,747	14,065	14,285	14,052	14,014	14,342
Administrative support, including clerical	18,256	18,264	18,416	18,762	18,452	18,757	18,677
Service occupations	15,054	15,332	15,556	16,012	16,254	16,377	16,821
Private household	934	909	872	792	799	891	928
Protective service	1,907	1,944	1,960	2,000	2,083	2,114	2,165
Service, except private household and protective	12,213	12,479	12,724	13,220	13,372	13,373	13,727
Precision production, craft, and repair	13,568	13,664	13,818	13,745	13,250	13,225	13,429
Mechanics and repairers	4,445	4,454	4,550	4,470	4,445	4,466	4,442
Construction trades	5,011	5,098	5,142	5,199	4,852	4,827	5,048
Other precision production, craft, and repair	4,112	4,112	4,126	4,076	3,953	3,931	3,939
Operators, fabricators, and laborers	17,486	17,814	18,022	18,071	17,456	17,247	17,341
Machine operators, assemblers, and inspectors	7,994	8,117	8,248	8,200	7,820	7,658	7,553
Transportation and material moving occupations	4,712	4,831	4,886	4,886	4,913	4,908	5,036
Handlers, equipment cleaners, helpers, and laborers	4,779	4,866	4,888	4,985	4,723	4,682	4,753
Farming, forestry, and fishing	3,507	3,437	3,421	3,450	3,506	3,510	3,379

	1994[1]	1995	1996	1997[1]	1998[1]	1999[1]	2000[1]
Total	123,060	124,900	126,708	129,558	131,463	133,488	135,208
Managerial and professional specialty	33,847	35,318	36,497	37,686	38,937	40,467	40,887
Executive, administrative, and managerial	16,312	17,186	17,746	18,440	19,054	19,584	19,774
Professional specialty	17,536	18,132	18,752	19,245	19,883	20,883	21,113
Technical, sales, and administrative support	37,306	37,417	37,683	38,309	38,521	38,921	39,442
Technicians and related support	3,869	3,909	3,926	4,214	4,261	4,355	4,385
Sales	14,817	15,119	15,404	15,734	15,850	16,118	16,340
Administrative support, including clerical	18,620	18,389	18,353	18,361	18,410	18,448	18,717
Service occupations	16,912	16,930	17,177	17,537	17,836	17,915	18,278
Private household	817	821	804	795	847	831	792
Protective service	2,249	2,237	2,187	2,300	2,417	2,440	2,399
Service, except private household and protective	13,847	13,872	14,186	14,442	14,572	14,644	15,087
Precision production, craft, and repair	13,489	13,524	13,587	14,124	14,411	14,593	14,882
Mechanics and repairers	4,419	4,423	4,521	4,675	4,786	4,868	4,875
Construction trades	5,008	5,098	5,108	5,378	5,594	5,801	6,120
Other precision production, craft, and repair	4,062	4,004	3,959	4,071	4,031	3,923	3,887
Operators, fabricators, and laborers	17,876	18,068	18,197	18,399	18,256	18,167	18,319
Machine operators, assemblers, and inspectors	7,754	7,907	7,874	7,962	7,791	7,386	7,319
Transportation and material moving occupations	5,136	5,171	5,302	5,389	5,363	5,516	5,557
Handlers, equipment cleaners, helpers, and laborers	4,986	4,990	5,021	5,048	5,102	5,265	5,443
Farming, forestry, and fishing	3,629	3,642	3,566	3,503	3,502	3,426	3,399

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

Table 11. Employed persons by usual full- or part-time status and sex, annual averages, 1970-2000

(In thousands)

Year	Total employed	Full time	Part time	Economic part time[1]
TOTAL				
1970	78,678	66,753	11,925	2,448
1971	79,367	66,973	12,393	2,688
1972[2]	82,153	69,214	12,939	2,648
1973[3]	85,064	71,803	13,262	2,554
1974	86,794	73,093	13,701	2,988
1975	85,846	71,586	14,260	3,804
1976	88,752	73,964	14,788	3,807
1977	92,017	76,625	15,391	3,808
1978[3]	96,048	80,193	15,855	3,518
1979	98,824	82,654	16,171	3,577
1980	99,303	82,562	16,740	4,321
1981	100,397	83,243	17,154	4,768
1982	99,526	81,421	18,106	6,170
1983	100,834	82,322	18,511	6,266
1984	105,005	86,544	18,462	5,744
1985	107,150	88,534	18,615	5,590
1986[3]	109,597	90,529	19,069	5,588
1987	112,440	92,957	19,483	5,401
1988	114,968	95,214	19,754	5,208
1989	117,342	97,369	19,973	4,894
1990[2]	118,793	98,666	20,128	5,204
1991	117,718	97,190	20,528	6,161
1992	118,492	97,664	20,828	6,520
1993	120,259	99,114	21,145	6,481
1994[3]	123,060	99,772	23,288	4,625
1995	124,900	101,679	23,220	4,473
1996	126,708	103,537	23,170	4,315
1997[3]	129,558	106,334	23,224	4,068
1998[3]	131,463	108,202	23,261	3,685
1999[3]	133,488	110,302	23,186	3,357
2000[3]	135,208	112,291	22,917	3,190
Men				
1970	48,990	44,825	4,166	1,298
1971	49,390	45,023	4,367	1,395
1972[2]	50,896	46,373	4,523	1,347
1973[3]	52,349	47,843	4,507	1,279
1974	53,024	48,378	4,646	1,519
1975	51,857	46,988	4,870	1,973
1976	53,138	48,150	4,988	1,825
1977	54,728	49,551	5,178	1,749
1978[3]	56,479	51,281	5,198	1,638
1979	57,607	52,427	5,180	1,645
1980	57,186	51,717	5,471	2,107
1981	57,397	51,906	5,492	2,285
1982	56,271	50,334	5,937	3,030
1983	56,787	50,643	6,145	2,966
1984	59,091	53,070	6,020	2,651
1985	59,891	53,862	6,028	2,572
1986[3]	60,892	54,685	6,207	2,590
1987	62,107	55,746	6,360	2,513
1988	63,273	56,816	6,457	2,474
1989	64,315	57,885	6,430	2,287
1990[2]	65,104	58,501	6,604	2,519
1991	64,223	57,407	6,815	3,104
1992	64,440	57,363	7,077	3,230
1993	65,349	58,123	7,226	3,124
1994[3]	66,450	58,832	7,617	2,299
1995	67,377	59,936	7,441	2,210
1996	68,207	60,762	7,445	2,106
1997[3]	69,685	62,258	7,427	1,988
1998[3]	70,693	63,189	7,504	1,796
1999[3]	71,446	63,930	7,516	1,634
2000[3]	72,293	64,938	7,355	1,571

See footnotes at end of table.

Table 11. Employed persons by usual full- and part-time status and sex, annual averages, 1970-2000—Continued

(In thousands)

Year	Total employed	Full time	Part time	Economic part time[1]
Women				
1970	29,688	21,929	7,758	1,148
1971	29,978	21,950	8,028	1,293
1972[2]	31,257	22,842	8,416	1,300
1973[2]	32,715	23,960	8,756	1,274
1974	33,769	24,714	9,055	1,468
1975	33,989	24,598	9,391	1,832
1976	35,615	25,814	9,799	1,782
1977	37,289	27,076	10,213	1,859
1978[2]	39,569	28,912	10,658	1,879
1979	41,217	30,227	10,990	1,932
1980	42,117	30,845	11,270	2,215
1981	43,000	31,337	11,664	2,484
1982	43,256	31,086	12,170	3,140
1983	44,047	31,679	12,367	3,300
1984	45,915	33,473	12,441	3,091
1985	47,259	34,672	12,587	3,018
1986[2]	48,706	35,845	12,862	2,999
1987	50,334	37,210	13,124	2,889
1988	51,696	38,398	13,298	2,733
1989	53,027	39,484	13,544	2,607
1990[2]	53,689	40,165	13,524	2,685
1991	53,496	39,783	13,713	3,057
1992	54,052	40,301	13,751	3,290
1993	54,910	40,991	13,919	3,357
1994[2]	56,610	40,940	15,670	2,325
1995	57,523	41,743	15,779	2,263
1996	58,501	42,776	15,725	2,210
1997[2]	59,873	44,076	15,797	2,080
1998[2]	60,771	45,014	15,757	1,889
1999[2]	62,042	46,372	15,670	1,723
2000[2]	62,915	47,353	15,562	1,619

[1] Includes some persons who usually work full time.

[2] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

Table 12. Employees on nonfarm payrolls by major industry division, annual averages, 1947-2000

(In thousands)

Year	Total	Total private	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance and, real estate	Services	Government
1947	43,857	38,382	955	2,009	15,545	4,166	2,478	6,477	1,728	5,025	5,474
1948	44,868	39,216	994	2,198	15,582	4,189	2,612	6,659	1,800	5,181	5,650
1949	43,754	37,897	930	2,194	14,441	4,001	2,610	6,654	1,828	5,239	5,856
1950	45,197	39,170	901	2,364	15,241	4,034	2,643	6,743	1,888	5,356	6,026
1951	47,819	41,430	929	2,637	16,393	4,226	2,735	7,007	1,956	5,547	6,389
1952	48,793	42,185	898	2,668	16,632	4,248	2,821	7,184	2,035	5,699	6,609
1953	50,202	43,556	868	2,659	17,549	4,290	2,882	7,385	2,111	5,835	6,645
1954	48,990	42,238	791	2,646	16,314	4,084	2,875	7,360	2,200	5,969	6,751
1955	50,641	43,727	792	2,839	16,882	4,141	2,934	7,601	2,298	6,240	6,914
1956	52,369	45,091	822	3,039	17,243	4,244	3,027	7,831	2,389	6,497	7,278
1957	52,855	45,239	828	2,962	17,176	4,241	3,037	7,848	2,438	6,708	7,616
1958	51,322	43,483	751	2,817	15,945	3,978	2,989	7,781	2,481	6,765	7,839
1959	53,270	45,188	732	3,004	16,875	4,011	3,092	8,035	2,549	7,087	8,083
1960	54,189	45,838	712	2,926	16,796	4,004	3,153	8,238	2,628	7,378	8,353
1961	53,999	45,404	672	2,859	16,326	3,903	3,142	8,195	2,688	7,619	8,594
1962	55,549	46,660	650	2,948	16,853	3,906	3,207	8,359	2,754	7,982	8,890
1963	56,653	47,429	635	3,010	16,995	3,903	3,258	8,520	2,830	8,277	9,225
1964	58,283	48,686	634	3,097	17,274	3,951	3,347	8,812	2,911	8,660	9,596
1965	60,763	50,689	632	3,232	18,082	4,038	3,477	9,239	2,977	9,036	10,074
1966	63,901	53,116	627	3,317	19,214	4,158	3,608	9,637	3,058	9,498	10,784
1967	65,803	54,413	613	3,248	19,447	4,268	3,700	9,906	3,185	10,045	11,391
1968	67,897	56,058	606	3,350	19,781	4,318	3,791	10,308	3,337	10,567	11,839
1969	70,384	58,189	619	3,575	20,167	4,442	3,919	10,785	3,512	11,189	12,195
1970	70,880	58,325	623	3,588	19,367	4,515	4,006	11,034	3,645	11,548	12,554
1971	71,211	58,331	609	3,704	18,623	4,476	4,014	11,338	3,772	11,797	12,881
1972	73,675	60,341	628	3,889	19,151	4,541	4,127	11,822	3,908	12,278	13,334
1973	76,790	63,058	642	4,097	20,154	4,656	4,291	12,315	4,046	12,857	13,732
1974	78,265	64,095	697	4,020	20,077	4,725	4,447	12,539	4,148	13,441	14,170
1975	76,945	62,259	752	3,525	18,323	4,542	4,430	12,630	4,165	13,892	14,686
1976	79,382	64,511	779	3,576	18,997	4,582	4,582	13,193	4,271	14,551	14,871
1977	82,471	67,344	813	3,851	19,682	4,713	4,723	13,792	4,467	15,302	15,127
1978	86,697	71,026	851	4,229	20,505	4,923	4,985	14,556	4,724	16,252	15,672
1979	89,823	73,878	958	4,463	21,040	5,138	5,221	14,972	4,975	17,112	15,947
1980	90,406	74,166	1,027	4,346	20,285	5,148	5,292	15,018	5,160	17,890	16,241
1981	91,152	75,121	1,139	4,188	20,170	5,165	5,375	15,171	5,298	18,615	16,031
1982	89,544	73,707	1,128	3,904	18,780	5,081	5,295	15,156	5,340	19,021	15,837
1983	90,152	74,282	952	3,948	18,432	4,952	5,283	15,587	5,466	19,664	15,869
1984	94,408	78,384	966	4,380	19,372	5,156	5,568	16,512	5,684	20,748	16,024
1985	97,387	80,992	927	4,668	19,248	5,233	5,727	17,315	5,948	21,927	16,394
1986	99,344	82,651	777	4,810	18,947	5,247	5,761	17,880	6,273	22,957	16,693
1987	101,958	84,948	717	4,958	18,999	5,362	5,848	18,422	6,533	24,110	17,010
1988	105,209	87,823	713	5,098	19,314	5,512	6,030	19,023	6,830	25,504	17,386
1989	107,884	90,105	692	5,171	19,391	5,614	6,187	19,475	6,868	26,907	17,779
1990	109,403	91,098	709	5,120	19,078	5,777	6,173	19,601	6,709	27,934	18,304
1991	108,249	89,847	689	4,650	18,406	5,755	6,081	19,284	6,646	28,338	18,402
1992	108,601	89,956	635	4,492	18,104	5,718	5,997	19,356	6,602	29,052	18,645
1993	110,713	91,872	610	4,668	18,075	5,811	5,981	19,773	6,757	30,197	18,841
1994	114,183	95,036	601	4,986	18,321	5,984	6,162	20,507	6,896	31,579	19,128
1995	117,191	97,885	581	5,160	18,524	6,132	6,378	21,187	6,808	33,117	19,305
1996	119,608	100,189	580	5,418	18,495	6,253	6,482	21,597	6,911	34,454	19,419
1997	122,690	103,133	596	5,691	18,875	6,408	6,648	21,968	7,109	36,040	19,557
1998	125,865	106,042	590	6,020	18,805	6,611	6,800	22,295	7,389	37,533	19,823
1999	128,916	108,709	539	6,415	18,552	6,834	6,911	22,848	7,555	39,055	20,206
2000	131,759	111,079	543	6,698	18,469	7,019	7,024	23,307	7,560	40,460	20,681

NOTE: Current estimates are projected from March 2000 benchmark levels.

Table 13. **Employees on nonfarm payrolls by industry, annual averages, 1992-2000**

(In thousands)

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total nonfarm	108,601	110,713	114,163	117,191	119,608	122,690	125,865	128,916	131,759
Total private	89,956	91,872	95,036	97,885	100,189	103,133	106,042	108,709	111,079
Goods-producing	23,231	23,352	23,908	24,265	24,493	24,962	25,414	25,507	25,709
Mining	635	610	601	581	508	596	590	539	543
Metal mining	53	50	49	51	54	54	49	44	41
Coal mining	127	109	112	104	98	96	92	85	77
Oil and gas extraction	353	350	337	320	322	339	339	297	311
Nonmetallic minerals, except fuels	102	102	104	105	106	108	110	113	114
Construction	4,492	4,668	4,986	5,160	5,418	5,691	6,020	6,415	6,698
General building contractors	1,077	1,120	1,188	1,207	1,257	1,310	1,377	1,458	1,526
Heavy construction, except building	711	713	740	752	777	799	840	874	901
Special trade contractors	2,704	2,836	3,058	3,201	3,384	3,582	3,804	4,084	4,269
Manufacturing	18,104	18,075	18,321	18,524	18,495	18,675	18,805	18,552	18,469
Durable goods	10,277	10,221	10,448	10,683	10,789	11,010	11,205	11,111	11,138
Lumber and wood products	680	709	754	769	778	796	814	834	832
Furniture and fixtures	478	487	505	510	504	512	533	548	558
Stone, clay, and glass products	513	517	532	540	544	552	562	566	579
Primary metal industries	695	683	698	712	711	711	715	699	698
Blast furnaces and basic steel products	250	240	239	242	240	235	233	227	225
Fabricated metal products	1,329	1,339	1,388	1,437	1,449	1,479	1,509	1,521	1,537
Industrial machinery and equipment	1,929	1,931	1,990	2,067	2,115	2,168	2,206	2,136	2,120
Computer and office equipment	391	363	354	352	362	376	382	368	361
Electronic and other electrical equipment	1,528	1,526	1,571	1,625	1,661	1,689	1,707	1,672	1,719
Electronic components and accessories	527	528	544	581	617	650	660	641	682
Transportation equipment	1,830	1,756	1,761	1,790	1,785	1,845	1,893	1,868	1,849
Motor vehicles and equipment	813	837	909	971	967	986	995	1,018	1,013
Aircraft and parts	612	542	482	451	458	501	525	496	465
Instruments and related products	929	896	861	843	855	866	873	855	852
Miscellaneous manufacturing industries	368	378	389	390	388	392	395	391	394
Nondurable goods	7,827	7,854	7,873	7,841	7,706	7,665	7,600	7,441	7,331
Food and kindred products	1,663	1,680	1,678	1,692	1,692	1,685	1,683	1,682	1,684
Tobacco products	48	44	43	42	41	41	41	37	34
Textile mill products	674	675	676	663	627	616	598	559	528
Apparel and other textile products	1,007	989	974	936	868	824	766	690	633
Paper and allied products	690	692	692	693	684	683	677	668	657
Printing and publishing	1,507	1,517	1,537	1,546	1,540	1,552	1,565	1,552	1,547
Chemicals and allied products	1,084	1,081	1,057	1,038	1,034	1,036	1,043	1,035	1,036
Petroleum and coal products	158	152	149	145	142	141	139	132	127
Rubber and miscellaneous plastics products	878	909	953	980	983	996	1,005	1,009	1,011
Leather and leather products	120	117	113	106	96	91	84	77	71

See note at end of table.

Table 13. **Employees on nonfarm payrolls by industry, annual averages, 1992-2000—Continued**

(In thousands)

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000
Service-producing	85,370	87,361	90,256	92,925	95,115	97,727	100,451	103,409	106,050
Transportation and public utilities	5,718	5,811	5,984	6,132	6,253	6,408	6,611	6,834	7,019
Transportation	3,495	3,598	3,761	3,904	4,019	4,123	4,273	4,411	4,529
Railroad transportation	254	248	241	238	231	227	231	235	236
Local and interurban passenger transit	361	379	404	419	437	452	469	478	476
Trucking and warehousing	1,385	1,444	1,526	1,587	1,637	1,677	1,744	1,810	1,856
Water transportation	173	168	172	175	174	179	181	186	196
Transportation by air	964	988	1,023	1,068	1,107	1,134	1,181	1,227	1,281
Pipelines, except natural gas	19	18	17	15	15	14	14	13	14
Transportation services	338	352	378	401	418	441	454	463	471
Communications and public utilities	2,223	2,214	2,223	2,229	2,234	2,285	2,338	2,423	2,490
Communications	1,269	1,269	1,295	1,318	1,351	1,419	1,477	1,560	1,639
Electric, gas, and sanitary services	954	944	928	911	884	866	861	863	851
Wholesale trade	5,997	5,981	6,162	6,378	6,482	6,648	6,800	6,911	7,024
Durable goods	3,446	3,433	3,559	3,715	3,805	3,927	4,043	4,117	4,193
Nondurable goods	2,552	2,549	2,604	2,663	2,677	2,721	2,757	2,793	2,831
Retail trade	19,356	19,773	20,507	21,187	21,597	21,966	22,295	22,848	23,307
Building materials and garden supplies	758	779	833	868	894	929	948	988	1,016
General merchandise stores	2,451	2,488	2,583	2,681	2,702	2,701	2,730	2,798	2,837
Department stores	2,080	2,140	2,246	2,346	2,367	2,380	2,415	2,459	2,491
Food stores	3,180	3,224	3,291	3,366	3,436	3,478	3,484	3,497	3,521
Automotive dealers and service stations	1,966	2,014	2,116	2,190	2,267	2,311	2,332	2,368	2,412
New and used car dealers	875	908	963	998	1,031	1,046	1,047	1,080	1,114
Apparel and accessory stores	1,131	1,144	1,144	1,125	1,098	1,109	1,141	1,171	1,193
Furniture and home furnishings stores	800	828	889	946	975	999	1,025	1,087	1,134
Eating and drinking places	6,609	6,821	7,078	7,354	7,517	7,646	7,768	7,961	8,114
Miscellaneous retail establishments	2,461	2,476	2,573	2,658	2,709	2,794	2,868	2,978	3,080
Finance, insurance, and real estate	6,602	6,757	6,896	6,806	6,911	7,109	7,389	7,555	7,560
Finance	3,160	3,238	3,299	3,231	3,303	3,424	3,588	3,688	3,710
Depository institutions	2,096	2,089	2,066	2,025	2,019	2,027	2,046	2,056	2,029
Commercial banks	1,490	1,497	1,484	1,466	1,458	1,463	1,472	1,468	1,430
Savings institutions	346	324	305	276	266	260	256	254	253
Nondepository institutions	406	455	491	463	522	577	658	709	681
Mortgage bankers and brokers	180	225	249	205	233	263	326	353	309
Security and commodit brokers	440	472	516	525	553	596	647	689	748
Holding and other investment offices	219	223	227	217	210	223	238	234	251
Insurance	2,152	2,197	2,236	2,225	2,226	2,264	2,335	2,368	2,346
Insurance carriers	1,496	1,529	1,552	1,529	1,517	1,539	1,591	1,610	1,589
Insurance agents, brokers, and service	657	668	684	696	709	725	744	758	757
Real estate	1,290	1,322	1,361	1,351	1,382	1,421	1,465	1,500	1,504
Services	29,052	30,197	31,579	33,117	34,454	36,040	37,533	39,055	40,460
Agricultural services	490	519	564	582	627	678	708	766	801
Hotels and other lodging places	1,576	1,596	1,631	1,668	1,715	1,746	1,789	1,848	1,912
Personal services	1,116	1,137	1,140	1,163	1,180	1,186	1,201	1,226	1,251
Business services	5,315	5,735	6,281	6,812	7,293	7,988	8,618	9,300	9,858
Services to buildings	805	823	857	882	907	930	950	983	994
Personnel supply services	1,629	1,906	2,272	2,476	2,654	2,985	3,278	3,616	3,887
Help supply services	1,411	1,669	2,017	2,189	2,352	2,656	2,926	3,248	3,487
Computer and data processing services	836	893	959	1,090	1,228	1,409	1,615	1,875	2,095

See note at end of table.

Table 13. **Employees on nonfarm payrolls by industry, annual averages, 1992-2000—Continued**

(In thousands)

Industry	1992	1993	1994	1995	1996	1997	1998	1999	2000
Services—Continued									
Auto repair, services, and parking	881	925	968	1,020	1,080	1,120	1,145	1,196	1,248
Miscellaneous repair services	347	349	338	359	372	374	376	372	366
Motion pictures	401	412	441	488	525	550	576	599	594
Amusement and recreation services	1,188	1,258	1,334	1,417	1,476	1,552	1,594	1,651	1,728
Health services	8,490	8,756	8,992	9,230	9,478	9,703	9,853	9,977	10,095
Offices and clinics of medical doctors	1,463	1,506	1,545	1,609	1,678	1,739	1,806	1,875	1,924
Nursing and personal care facilities	1,533	1,585	1,649	1,691	1,730	1,756	1,772	1,786	1,796
Hospitals	3,750	3,779	3,763	3,772	3,812	3,860	3,930	3,974	3,990
Home health care services	398	469	559	629	675	710	666	636	643
Legal services	914	924	924	921	928	944	971	996	1,010
Educational services	1,678	1,711	1,850	1,965	2,030	2,104	2,178	2,267	2,325
Social services	1,959	2,070	2,200	2,336	2,413	2,518	2,646	2,783	2,903
Child day care services	451	473	515	563	565	576	621	680	712
Residential care	534	567	604	643	677	716	744	771	806
Museums, botanical and zoological gardens	73	76	79	80	85	90	94	99	106
Membership organizations	1,973	2,035	2,082	2,146	2,201	2,277	2,372	2,436	2,475
Engineering and management services	2,471	2,521	2,579	2,731	2,844	2,988	3,139	3,256	3,419
Engineering and architectural services	742	757	778	815	836	865	908	957	1,017
Management and public relations	855	868	719	805	870	939	1,000	1,031	1,090
Government	18,645	18,841	19,128	19,305	19,419	19,557	19,823	20,206	20,681
Federal	2,969	2,915	2,870	2,822	2,757	2,699	2,686	2,669	2,777
Federal, except Postal Service	2,177	2,128	2,053	1,978	1,901	1,842	1,819	1,796	1,917
State government	4,408	4,488	4,576	4,635	4,606	4,582	4,612	4,709	4,785
State government, except education	2,610	2,654	2,694	2,715	2,695	2,678	2,690	2,726	2,753
State government education	1,799	1,834	1,882	1,919	1,911	1,904	1,922	1,983	2,032
Local government	11,267	11,438	11,682	11,849	12,056	12,276	12,525	12,829	13,119
Local government, except education	5,048	5,085	5,203	5,243	5,308	5,357	5,440	5,540	5,679
Local government education	6,220	6,353	6,479	6,606	6,748	6,918	7,085	7,289	7,440

NOTE: Current estimates are projected from March 2000 benchmark levels.

Table 14 **Average weekly hours of production workers on private nonfarm payrolls by major industry division, annual averages, 1947-2000**

Year	Total private	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services
1947	40.3	40.8	38.2	40.4	-	41.1	40.3	37.9	-
1948	40.0	39.4	38.1	40.0	-	41.0	40.2	37.9	-
1949	39.4	36.3	37.7	39.1	-	40.8	40.4	37.8	-
1950	39.8	37.9	37.4	40.5	-	40.7	40.4	37.7	-
1951	39.9	38.4	38.1	40.6	-	40.8	40.4	37.7	-
1952	39.9	38.6	38.9	40.7	-	40.7	39.8	37.8	-
1953	39.6	38.8	37.9	40.5	-	40.6	39.1	37.7	-
1954	39.1	38.6	37.2	39.6	-	40.5	39.2	37.6	-
1955	39.6	40.7	37.1	40.7	-	40.7	39.0	37.6	-
1956	39.3	40.8	37.5	40.4	-	40.5	38.6	36.9	-
1957	38.8	40.1	37.0	39.8	-	40.3	38.1	36.7	-
1958	38.5	38.9	38.8	39.2	-	40.2	38.1	37.1	-
1959	39.0	40.5	37.0	40.3	-	40.6	38.2	37.3	-
1960	38.6	40.4	36.7	39.7	-	40.5	38.0	37.2	-
1961	38.6	40.5	36.9	39.8	-	40.5	37.6	36.9	-
1962	38.7	41.0	37.0	40.4	-	40.6	37.4	37.3	-
1963	38.8	41.6	37.3	40.5	-	40.6	37.3	37.5	-
1964	38.7	41.9	37.2	40.7	41.1	40.7	37.0	37.3	36.1
1965	38.8	42.3	37.4	41.2	41.3	40.8	36.6	37.2	35.9
1966	38.6	42.7	37.6	41.4	41.2	40.7	35.9	37.3	35.5
1967	38.0	42.6	37.7	40.6	40.5	40.3	35.3	37.1	35.1
1968	37.8	42.6	37.3	40.7	40.6	40.1	34.7	37.0	34.7
1969	37.7	43.0	37.9	40.6	40.7	40.2	34.2	37.1	34.7
1970	37.1	42.7	37.3	39.8	40.5	39.9	33.8	36.7	34.4
1971	36.9	42.4	37.2	39.9	40.1	39.4	33.7	36.6	33.9
1972	37.0	42.6	36.5	40.5	40.4	39.4	33.4	36.6	33.9
1973	36.9	42.4	36.8	40.7	40.5	39.2	33.1	36.6	33.8
1974	36.5	41.9	36.6	40.0	40.2	38.8	32.7	36.5	33.6
1975	36.1	41.9	36.4	39.5	39.7	38.6	32.4	36.5	33.5
1976	36.1	42.4	36.8	40.1	39.8	38.7	32.1	36.4	33.3
1977	36.0	43.4	36.5	40.3	39.9	38.8	31.6	36.4	33.0
1978	35.8	43.4	36.8	40.4	40.0	38.8	31.0	36.4	32.8
1979	35.7	43.0	37.0	40.2	39.9	38.8	30.6	36.2	32.7
1980	35.3	43.3	37.0	39.7	39.6	38.4	30.2	36.2	32.6
1981	35.2	43.7	36.9	39.8	39.4	38.5	30.1	36.3	32.6
1982	34.8	42.7	36.7	38.9	39.0	38.3	29.9	36.2	32.6
1983	35.0	42.5	37.1	40.1	39.0	38.5	29.8	36.2	32.7
1984	35.2	43.3	37.8	40.7	39.4	38.5	29.8	36.5	32.6
1985	34.9	43.4	37.7	40.5	39.5	38.4	29.4	36.4	32.5
1986	34.8	42.2	37.4	40.7	39.2	38.3	29.2	36.4	32.5
1987	34.8	42.4	37.8	41.0	39.2	38.1	29.2	36.3	32.5
1988	34.7	42.3	37.9	41.1	38.2	38.1	29.1	35.9	32.6
1989	34.6	43.0	37.9	41.0	38.3	38.0	28.9	35.8	32.6
1990	34.5	44.1	38.2	40.8	38.4	38.1	28.8	35.8	32.5
1991	34.3	44.4	38.1	40.7	38.1	38.1	28.6	35.7	32.4
1992	34.4	43.9	38.0	41.0	38.3	38.2	28.8	35.8	32.5
1993	34.5	44.3	38.5	41.4	39.3	38.2	28.8	35.8	32.5
1994	34.7	44.8	38.9	42.0	39.7	38.4	28.9	35.8	32.5
1995	34.5	44.7	38.9	41.6	39.4	38.3	28.8	35.9	32.4
1996	34.4	45.3	39.0	41.6	39.6	38.3	28.8	35.9	32.4
1997	34.6	45.4	39.0	42.0	39.7	38.4	28.9	36.1	32.6
1998	34.6	43.9	38.9	41.7	39.5	38.3	29.0	36.4	32.6
1999	34.5	43.2	39.1	41.7	38.7	38.3	29.0	36.2	32.6
2000	34.5	43.1	39.3	41.6	38.6	38.5	28.9	36.3	32.7

Dash indicates data not available.

NOTE: Current estimates are projected from March 2000 benchmark levels.

Table 15. **Indexes of aggregate weekly hours of production workers on private nonfarm payrolls by major industry division, annual averages, 1947-2000**

(1982=100)

Year	Total private	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services
1947	–	101.4	62.0	105.8		56.8			
1948	–	101.9	67.6	104.2		59.5			
1949	–	86.8	66.7	93.0		59.0			
1950	–	88.3	71.3	102.2		59.7			
1951	–	91.9	81.0	109.6	–	61.7			
1952	–	88.2	83.3	109.6		63.3			
1953	–	84.8	80.5	114.8		63.7			
1954	–	75.5	78.2	102.4		63.1			
1955	–	78.9	83.4	109.0		64.4			
1956	–	81.5	90.2	109.5	–	65.9			
1957	–	79.6	86.6	105.9		65.4			
1958	–	67.9	80.8	94.8	–	63.6			
1959	–	68.1	86.7	102.3		66.4			
1960	–	65.7	83.2	100.7		67.3			
1961	–	61.5	81.4	97.0		66.8			
1962	–	59.8	83.9	101.6	–	68.1			
1963	–	59.1	86.8	102.4		68.8			
1964	75.8	59.4	89.1	104.9	87.7	70.6	73.2	60.4	51.9
1965	79.1	59.6	93.4	111.5	89.9	73.3	75.9	61.4	54.0
1966	82.5	59.3	96.3	119.2	91.7	75.7	77.6	62.8	56.4
1967	82.9	57.0	93.8	117.1	92.1	76.5	78.3	64.8	58.9
1968	84.9	56.0	95.6	119.2	93.4	77.7	80.1	67.8	61.3
1969	87.7	57.9	103.6	121.0	96.3	80.6	82.6	71.6	64.2
1970	86.3	57.6	101.3	112.8	96.9	81.7	83.4	73.0	65.3
1971	85.8	54.9	103.6	108.8	95.1	80.4	85.3	74.3	65.6
1972	89.2	57.8	107.9	114.8	97.3	82.5	88.2	76.5	68.0
1973	93.2	58.8	113.7	121.7	99.9	85.6	90.9	78.9	71.3
1974	93.2	63.4	109.5	118.1	100.4	87.6	91.0	79.8	73.9
1975	88.8	68.3	92.7	103.8	94.6	86.4	90.6	79.9	76.0
1976	92.3	71.5	94.0	110.3	95.5	89.1	93.9	81.5	78.8
1977	96.0	76.5	100.2	115.0	97.9	92.5	96.5	85.4	82.0
1978	100.7	79.0	112.2	120.1	101.3	97.7	100.0	90.3	86.3
1979	104.0	88.2	119.9	122.1	104.9	102.0	101.5	94.4	90.2
1980	102.8	94.1	115.1	113.8	104.1	101.9	100.1	97.8	94.3
1981	104.1	104.8	109.3	112.5	103.3	103.3	100.6	105.5	98.2
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.5	81.5	102.2	101.4	97.3	99.9	102.7	101.6	103.6
1984	107.7	84.9	116.8	109.0	102.8	105.3	108.2	106.4	108.2
1985	110.5	81.4	125.3	106.9	104.6	108.4	111.7	110.9	114.0
1986	112.3	65.7	128.2	105.7	104.0	108.5	114.3	116.7	119.2
1987	115.6	61.8	132.7	107.0	106.5	109.4	117.9	120.1	124.9
1988	119.3	61.7	136.9	109.3	108.2	113.3	121.0	119.2	132.2
1989	122.1	60.5	138.9	109.3	111.1	116.1	122.9	119.5	139.3
1990	123.0	63.9	138.0	106.4	114.5	115.7	123.0	120.2	144.2
1991	120.4	62.0	122.8	102.1	113.4	113.7	119.5	118.3	145.3
1992	121.2	56.2	118.4	101.7	113.6	112.8	120.6	118.1	149.3
1993	124.6	54.3	125.4	103.1	118.2	112.8	123.4	121.2	155.4
1994	130.0	54.6	136.4	107.0	121.8	116.9	128.6	124.0	163.1
1995	133.5	54.1	140.9	107.5	123.9	121.1	132.2	122.9	120.7
1996	136.7	55.6	148.7	107.2	127.5	122.9	134.6	125.0	177.4
1997	141.5	58.3	156.2	109.4	130.5	126.1	137.7	129.6	186.6
1998	145.1	56.0	164.7	109.0	132.3	127.9	140.0	136.3	194.2
1999	148.2	50.1	176.1	107.2	134.3	129.6	143.5	138.4	201.5
2000	151.6	51.3	184.8	105.9	137.9	132.0	146.1	138.5	209.6

Dash indicates data not available.

NOTE: Current estimates are projected from March 2000 benchmark levels.

Table 16. **Percent distribution of all hours worked by women in the private business sector by years of completed schooling, 1948-99**

Year	Years of completed schooling						
	0-4	5-8	9-11	12	13-15	16	17+
1948	4.8	29.5	18.8	36.3	6.8	2.5	1.3
1949	4.5	25.4	20.5	35.5	9.2	3.2	1.6
1950	4.5	25.4	20.3	35.7	9.2	3.2	1.6
1951	4.6	25.8	20.1	36.4	8.4	3.2	1.6
1952	4.6	26.2	19.8	37.0	7.6	3.2	1.6
1953	4.3	25.5	19.9	37.9	7.7	3.2	1.6
1954	4.1	24.7	19.8	38.8	7.8	3.3	1.6
1955	3.7	24.1	19.8	39.6	7.8	3.3	1.6
1956	3.4	23.4	19.9	40.4	7.9	3.4	1.6
1957	3.1	22.5	19.8	41.3	8.0	3.5	1.7
1958	3.0	22.3	20.6	40.2	8.8	3.4	1.6
1959	2.9	22.5	21.7	38.7	9.5	3.2	1.5
1960	2.7	21.7	22.2	38.0	10.6	3.3	1.5
1961	2.5	20.5	20.8	40.3	10.5	4.1	1.2
1962	2.3	18.9	19.4	43.0	10.6	4.8	1.0
1963	2.2	18.5	19.4	44.2	10.1	4.4	1.2
1964	2.1	18.2	19.4	45.2	9.7	4.0	1.4
1965	2.0	17.4	19.2	45.9	9.7	4.2	1.6
1966	1.6	16.7	19.1	47.4	10.3	3.5	1.5
1967	1.3	15.2	18.9	48.0	12.0	3.5	1.1
1968	1.4	13.5	18.6	50.1	11.7	3.3	1.3
1969	1.1	12.4	17.7	50.6	12.3	4.1	1.7
1970	1.1	11.7	17.2	50.3	13.2	4.4	2.1
1971	1.2	10.5	16.9	51.3	13.6	4.8	1.6
1972	1.1	9.5	16.0	52.5	14.2	4.8	1.8
1973	1.0	8.9	15.5	50.8	15.9	5.6	2.2
1974	.8	8.3	14.9	50.8	16.1	6.3	2.8
1975	.8	7.7	15.1	50.3	16.4	6.9	2.8
1976	.9	7.3	14.9	50.4	16.8	7.1	2.7
1977	.8	6.9	14.4	50.1	17.6	7.3	2.8
1978	.8	6.0	13.2	50.4	18.5	7.7	3.4
1979	.7	5.7	12.4	50.2	18.8	8.6	3.6
1980	.6	5.2	11.9	50.0	19.7	8.9	3.6
1981	.7	4.9	11.3	49.8	19.7	9.3	4.4
1982	.6	4.4	10.4	48.7	20.6	10.4	4.9
1983	.6	3.9	9.9	48.5	21.0	11.0	5.2
1984	.6	3.7	9.7	47.3	22.0	11.7	5.1
1985	.5	3.4	9.1	47.0	22.6	12.2	5.2
1986	.4	3.3	8.9	46.8	22.7	12.3	5.5
1987	.7	3.0	9.3	46.0	23.0	12.5	5.5
1988	.7	2.8	9.0	45.6	22.8	13.2	5.9
1989	.6	2.7	8.5	45.0	23.3	13.5	6.3
1990	.6	2.7	8.4	44.4	23.4	14.1	6.3
1991[1]	.5	2.2	6.6	41.1	29.5	15.2	4.9
1992	.5	2.1	6.2	39.8	30.4	15.7	5.2
1993[2]	.5	2.2	6.6	37.4	32.2	15.8	5.2
1994	.5	2.2	6.6	36.5	32.4	16.2	5.6
1995	.5	2.2	6.8	36.1	31.8	16.9	5.7
1996	.4	2.1	6.5	36.7	31.2	17.4	5.7
1997	.5	2.1	6.3	35.8	31.5	17.6	6.2
1998	.5	2.0	6.6	35.3	31.7	17.8	6.0
1999	.5	2.1	6.4	34.5	32.2	18.2	6.2

[1] March 1992 Current Population Survey used in measuring 1991 data revised questions on educational attainment. Data prior to 1991 are not strictly comparable.

[2] May not be strictly comparable before 1993 data due to comprehensive revisions in the CPS questionnaire.

NOTE: Rows may not sum to 100.0 due to rounding.

Table 17. **Percent distribution of all hours worked by men in the private business sector by years of completed schooling, 1948-99**

Year	Years of completed schooling						
	0-4	5-8	9-11	12	13-15	16	17+
1948	8.3	35.6	20.5	23.1	6.5	3.6	2.4
1949	9.3	36.0	19.5	21.4	7.1	4.0	2.7
1950	9.1	35.9	19.5	21.5	7.2	4.1	2.7
1951	8.8	35.1	19.1	22.4	7.4	4.3	2.9
1952	8.5	34.4	18.8	23.3	7.6	4.4	3.0
1953	8.1	33.4	19.0	24.0	7.7	4.7	3.2
1954	7.6	32.4	19.1	24.7	7.7	4.9	3.4
1955	7.1	31.3	19.4	25.7	7.8	5.1	3.6
1956	6.7	30.3	19.6	26.5	7.9	5.3	3.7
1957	6.2	29.3	19.8	27.3	7.9	5.5	3.9
1958	5.9	28.9	20.2	26.8	8.6	5.5	4.0
1959	5.5	28.4	20.7	26.4	9.3	5.5	4.0
1960	5.2	27.8	21.1	26.1	10.1	5.6	4.1
1961	4.8	25.8	20.4	28.2	10.2	6.5	4.2
1962	4.5	23.8	19.6	30.2	10.2	7.3	4.3
1963	4.1	22.9	19.6	31.5	10.2	7.2	4.5
1964	3.7	22.0	19.6	32.8	10.2	7.0	4.7
1965	3.6	21.1	19.3	33.8	10.1	7.5	4.5
1966	3.4	20.4	19.5	34.4	10.2	7.8	4.4
1967	2.9	18.6	18.8	35.3	11.9	7.6	5.1
1968	2.7	17.9	18.7	35.8	12.2	7.7	5.0
1969	2.5	17.0	17.7	36.4	12.8	8.2	5.4
1970	2.4	15.7	16.9	37.2	13.5	8.6	5.7
1971	2.3	14.8	17.2	37.2	13.8	8.8	5.8
1972	2.3	12.9	16.3	38.8	14.6	9.1	6.0
1973	2.1	12.4	15.7	38.6	15.2	9.5	6.5
1974	1.7	10.7	14.9	38.7	16.0	10.9	7.2
1975	1.8	10.8	14.9	38.9	15.9	10.7	7.0
1976	1.7	10.1	15.0	38.5	16.4	10.9	7.3
1977	1.7	9.7	14.5	38.4	17.4	10.9	7.5
1978	1.5	8.9	13.6	39.0	18.1	11.1	7.8
1979	1.4	8.5	13.7	39.0	17.8	11.5	8.1
1980	1.4	7.8	13.1	39.5	17.8	12.1	8.3
1981	1.3	7.3	12.5	39.6	17.6	12.5	9.2
1982	1.3	6.5	11.7	38.6	18.0	13.8	10.2
1983	1.0	6.4	10.9	39.2	18.4	13.9	10.1
1984	1.1	6.2	11.0	39.2	18.7	14.1	9.8
1985	1.1	5.8	10.5	39.4	19.4	14.5	9.5
1986	1.0	5.6	10.7	39.0	39.0	14.5	9.9
1987	1.1	5.2	10.7	39.2	18.8	14.8	10.1
1988	1.2	5.1	10.2	38.8	19.5	14.7	10.6
1989	1.3	4.9	10.0	38.8	20.0	15.2	10.1
1990[1]	1.2	4.5	9.7	39.2	20.2	15.1	10.0
1991	1.0	3.9	8.2	37.1	24.4	17.0	8.4
1992	1.0	3.7	7.8	36.2	25.0	17.2	9.1
1993[2]	1.0	3.8	7.7	35.2	26.0	17.4	8.9
1994	1.0	3.7	7.6	34.7	26.1	18.0	8.9
1995	1.0	3.7	8.0	34.5	26.3	17.6	8.9
1996	1.0	3.7	8.1	34.3	26.0	18.0	8.8
1997	1.0	3.4	7.8	34.8	26.0	18.2	8.9
1998	0.8	3.3	7.8	34.5	25.9	19.0	8.7
1999	0.9	3.4	7.4	33.9	26.2	18.9	9.3

[1] March 1992 Current Population Survey used in measuring 1991 data contained revised questions on educational attainment. Data prior to 1991 are not strictly comparable.

[2] May not be strictly comparable before 1993 data due to comprehensive revisions in the CPS questionnaire.

NOTE: Rows may not sum to 100.0 due to rounding.

Table 18. Employment Cost Index for wages and salaries, annual averages,[1] 1976-00

Year	Civilian workers	State and local government workers	Private industry workers						
			All private industry workers	White collar workers	Blue collar workers	Goods-producing workers	Service-producing workers	Manufacturing workers	Nonmanufacturing workers
1976	–	–	47.9	46.8	49.5	49.0	47.1	48.3	47.7
1977	–	–	51.3	49.8	53.3	52.8	50.1	52.1	50.8
1978	–	–	55.2	53.5	57.5	57.0	53.9	56.2	54.7
1979	–	–	59.6	57.5	62.4	61.6	58.1	60.9	59.0
1980	–	–	65.1	62.7	68.4	67.5	63.4	66.8	64.2
1981	–	–	71.0	68.5	74.6	73.5	69.2	72.8	70.2
1982	75.1	71.0	76.0	73.6	79.4	78.6	74.2	77.7	75.2
1983	79.1	75.0	80.0	77.9	83.0	82.0	78.5	81.2	79.4
1984	82.8	79.3	83.5	81.7	86.0	85.2	82.5	84.7	83.1
1985	86.5	83.8	87.2	85.7	89.2	88.6	86.3	88.3	86.7
1986	89.9	88.3	90.2	89.2	91.7	91.5	89.4	91.3	89.7
1987	92.9	92.4	93.1	92.4	94.0	93.9	92.5	93.9	92.8
1988	96.6	96.7	96.5	96.1	97.1	97.2	96.1	97.1	96.3
1989	100.8	101.6	100.8	100.7	100.4	100.5	100.7	100.5	100.7
1990	105.3	107.2	104.8	105.3	104.1	104.8	105.0	104.9	104.8
1991	109.4	111.9	108.8	109.5	107.6	108.4	109.0	108.9	108.7
1992	112.6	115.1	111.9	112.7	110.7	111.8	112.0	112.6	111.6
1993	115.8	118.4	115.2	116.1	113.7	114.9	115.3	116.0	114.8
1994	119.2	121.8	118.5	119.7	116.9	118.4	118.6	119.5	118.1
1995	122.6	125.7	121.9	123.1	120.3	121.7	122.0	123.2	121.3
1996	126.6	129.2	126.0	127.4	123.9	125.5	126.2	127.0	125.4
1997	130.9	132.7	130.4	132.1	127.7	129.2	130.9	130.7	130.1
1998	135.9	136.7	135.7	137.9	131.8	133.7	136.5	135.3	135.5
1999	140.5	141.1	140.2	142.7	136.1	138.0	141.3	139.6	140.2
2000	146.1	146.1	146.0	148.8	141.1	143.4	147.1	144.9	146.0

Dash indicates data not available.

[1] The annual average is the average for four quarters of a year.

Table 19. Employer compensation costs per employee hours worked, all private industry, 1986-00

Measure	Total compensation	Wages and salaries	Total benefits	Paid leave	Supplemental pay	Insurance	Retirement and savings	Legally required benefits	Other benefits
Cost per hour worked									
1986	$13.25	$9.67	$3.58	$0.93	$0.30	$0.73	$0.50	$1.11	$0.02
1987	13.42	9.83	3.60	.93	.32	.72	.48	1.13	.02
1988	13.79	10.02	3.77	.97	.33	.78	.45	1.22	.02
1989	14.28	10.38	3.90	1.00	.34	.85	.42	1.27	.02
1990	14.96	10.84	4.13	1.03	.37	.92	.45	1.35	(1)
1991	15.40	11.14	4.27	1.05	.36	1.01	.44	1.40	(1)
1992	16.14	11.58	4.55	1.09	.39	1.12	.48	1.47	.02
1993	16.70	11.90	4.80	1.11	.42	1.19	.48	1.55	.04
1994	17.08	12.14	4.94	1.11	.44	1.23	.52	1.60	.04
1995	17.10	12.25	4.85	1.09	.47	1.15	.52	1.59	.03
1996	17.49	12.58	4.91	1.12	.49	1.14	.55	1.59	.03
1997	17.97	13.04	4.94	1.14	.51	1.09	.55	1.62	.03
1998	18.50	13.47	5.02	1.16	.56	1.10	.55	1.63	.03
1999	19.00	13.87	5.13	1.20	.55	1.13	.57	1.65	.03
2000	19.85	14.49	5.36	1.28	.60	1.19	.59	1.67	.03
Percent of total compensation									
1986	100.0	73.0	27.0	7.0	2.3	5.5	3.8	8.4	.1
1987	100.0	73.2	26.8	6.9	2.4	5.4	3.6	8.4	.1
1988	100.0	72.7	27.3	7.0	2.4	5.6	3.3	8.8	.2
1989	100.0	72.7	27.3	7.0	2.4	6.0	2.9	8.9	.1
1990	100.0	72.4	27.6	6.9	2.5	6.1	3.0	9.0	(1)
1991	100.0	72.3	27.7	6.8	2.3	6.5	2.9	9.1	(1)
1992	100.0	71.8	28.2	6.8	2.4	6.9	2.9	9.1	.1
1993	100.0	71.3	28.7	6.6	2.5	7.2	2.9	9.3	.2
1994	100.0	71.1	28.9	6.5	2.6	7.2	3.0	9.4	.2
1995	100.0	71.6	28.4	6.4	2.8	6.7	3.0	9.3	.2
1996	100.0	71.9	28.1	6.4	2.8	6.5	3.1	9.1	.2
1997	100.0	72.5	27.5	6.3	2.9	6.1	3.0	9.0	.1
1998	100.0	72.8	27.1	6.3	3.0	5.9	3.0	8.8	.2
1999	100.0	73.0	27.0	6.3	2.9	5.9	3.0	8.7	.2
2000	100.0	73.0	27.0	6.4	3.0	6.0	3.0	8.4	.2

[1] Cost per hour worked is $0.01 or less.

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Table 20. **Mean hourly earnings[1] for selected occupations, all workers, all industries, selected areas,[2] April 2000**

Occupation[3]	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA	Washington-Baltimore, DC-MD-VA-WV	Detroit-Ann Arbor-Flint, MI	San Francisco-Oakland-San Jose, CA	Los Angeles-Riverside-Orange County CA
ALL	$21.18	$18.47	$19.27	$22.06	$18.27
All, excluding sales	21.48	18.55	19.47	22.52	18.45
WHITE COLLAR	25.44	22.18	23.29	26.21	22.71
White collar, excluding sales	26.31	22.80	24.30	27.45	23.71
Professional specialty and technical	32.30	27.20	28.84	33.14	29.87
Professional specialty	34.11	28.65	31.40	34.82	31.80
Engineers, architects, and surveyors	31.03	30.66	31.96	37.61	34.64
Aerospace engineers	–	–	–	–	35.94
Civil engineers	–	29.93	–	35.13	28.93
Electrical and electronic engineers	34.74	33.88	–	38.94	–
Industrial engineers	27.23	–	28.77	31.02	–
Mechanical engineers	27.18	–	31.49	–	30.24
Engineers, n.e.c.	32.34	34.18	34.08	38.95	33.90
Mathematical and computer scientists	39.31	28.23	28.78	37.31	28.53
Computer systems analysts and scientists	37.09	29.58	27.69	37.16	28.42
Operations and systems researchers and analysts	60.34	23.71	30.54	–	–
Natural scientists	36.39	25.83	22.45	28.07	28.89
Chemists, except biochemists	37.07	–	–	–	–
Medical scientists	39.84	–	–	–	–
Health related	28.05	25.08	24.74	29.97	27.25
Physicians	31.44	36.47	32.64	36.68	51.68
Registered nurses	27.74	22.51	23.26	30.09	24.97
Pharmacists	27.31	32.93	32.21	–	34.47
Dietitians	18.34	–	17.08	22.51	–
Respiratory therapists	22.77	22.09	–	–	–
Speech therapists	–	29.02	–	–	–
Therapists, n.e.c.	–	18.93	–	–	–
Teachers, college and university	48.35	33.96	41.49	46.87	39.00
Engineering teachers	–	–	65.61	–	–
Mathematical science teachers	–	33.83	–	–	–
Medical science teachers	97.97	–	–	–	–
Health specialties teachers	–	–	38.85	–	–
Business, commerce and marketing teachers	–	31.26	–	43.65	50.68
English teachers	–	–	–	–	34.94
Teachers, except college and university	38.31	27.37	38.26	34.10	32.63
Prekindergarten and kindergarten	33.43	21.27	35.49	26.29	14.05
Elementary school teachers	41.53	29.24	40.12	37.53	35.90
Secondary school teachers	44.12	31.45	41.42	33.07	36.11
Teachers, special education	42.40	27.60	37.71	42.75	–
Teachers, n.e.c.	36.87	27.78	33.63	30.81	30.31
Substitute teachers	11.52	–	–	–	17.98
Vocational and educational counselors	26.63	23.69	24.87	22.16	27.31
Librarians, archivists, and curators	32.47	23.46	27.80	26.93	–
Librarians	30.80	23.35	27.80	26.93	–
Social scientists and urban planners	31.84	26.70	–	28.12	32.83
Economists	31.77	–	–	29.01	–
Psychologists	32.13	22.82	–	26.77	30.86
Social, recreation, and religious workers	22.41	17.03	24.30	22.74	20.45
Social workers	22.73	17.42	24.53	24.40	21.48
Recreation workers	16.53	16.05	–	–	14.03
Lawyers and judges	47.52	53.67	56.31	61.53	39.55
Lawyers	47.52	62.46	56.07	61.53	39.55
Writers, authors, entertainers, athletes, and professionals, n.e.c.	31.76	30.17	33.31	26.20	39.56
Designers	31.35	19.49	–	–	33.43
Editors and reporters	38.58	32.76	–	–	37.43
Public relations specialists	22.58	–	–	–	–
Athletes	16.67	–	–	–	–
Professionals, n.e.c.	30.62	–	–	21.96	23.80
Technical	24.33	21.01	20.08	25.40	21.61
Clinical laboratory technologists and technicians	19.60	16.75	19.69	24.57	21.98
Health record technologists and technicians	–	12.49	15.98	–	–
Radiological technicians	23.53	19.37	19.15	26.34	20.82
Licensed practical nurses	17.52	16.01	16.08	18.96	15.11
Health technologists and technicians, n.e.c.	16.61	16.43	13.22	18.89	16.72
Electrical and electronic technicians	20.12	18.89	22.75	23.60	22.11
Mechanical engineering technicians	–	–	23.99	–	–
Engineering technicians, n.e.c.	17.62	–	25.32	22.28	23.62
Drafters	–	–	23.33	27.54	–
Airplane pilots and navigators	–	93.39	–	–	80.85
Broadcast equipment operators	–	20.32	–	–	–
Computer programmers	28.50	19.95	32.18	30.05	–
Legal assistants	–	–	–	23.02	–
Technical and related, n.e.c.	22.52	17.68	19.91	24.54	25.53

See footnotes at end of table.

Table 20. **Mean hourly earnings[1] for selected occupations, all workers, all industries, selected areas,[2] April 2000**–Continued

Occupation[3]	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA	Washington-Baltimore, DC-MD-VA-WV	Detroit-Ann Arbor-Flint, MI	San Francisco-Oakland-San Jose, CA	Los Angeles-Riverside-Orange County CA
WHITE COLLAR–Continued					
Executive, administrative, and managerial	$34.67	$29.16	$31.88	$36.55	$31.52
Executives, administrators, and managers	39.93	32.35	35.13	43.87	35.81
Administrators and officials, public administration	37.51	25.63	33.38	33.12	–
Financial managers	43.11	48.11	33.67	38.93	37.15
Personnel and labor relations managers	37.05	30.19	–	–	36.74
Managers, marketing, advertising and public relations	47.29	43.78	42.96	45.45	36.09
Administrators, education and related fields	42.58	32.46	41.09	36.77	39.19
Managers, medicine and health	38.38	26.74	26.75	34.48	32.04
Managers, food servicing and lodging establishments	–	–	–	–	19.05
Managers, service organizations, n.e.c.	38.70	28.45	–	22.15	29.90
Managers and administrators, n.e.c.	38.26	33.36	36.08	49.70	37.83
Management related	26.57	22.97	27.21	26.92	24.05
Accountants and auditors	26.29	21.02	25.12	28.00	24.24
Other financial officers	27.67	29.50	30.45	31.39	21.35
Management analysts	32.23	–	27.74	29.58	28.14
Personnel, training, and labor relations specialists	25.90	20.49	24.69	25.63	22.44
Purchasing agents and buyers, n.e.c.	23.54	28.92	29.47	25.99	21.98
Construction inspectors	24.85	–	–	–	–
Inspectors and compliance officers, except construction	21.35	–	–	27.59	25.39
Management related, n.e.c.	27.70	24.52	27.66	24.65	23.51
Sales	16.06	17.39	16.25	15.24	15.73
Supervisors, sales	24.55	19.66	25.08	17.03	29.20
Sales, other business services	33.16	26.39	17.24	–	15.78
Sales representatives, mining, manufacturing, and wholesale	27.11	–	26.99	–	22.86
Sales workers, motor vehicles and boats	–	–	–	–	23.28
Sales workers, apparel	9.58	12.91	–	8.83	8.88
Sales workers, furniture & home furnishings	–	–	12.80	9.37	8.31
Sales workers, radio, tv, hi-fi, & appliances	17.70	–	–	–	–
Sales workers, hardware and building supplies	–	12.50	–	–	–
Sales workers, other commodities	9.28	9.37	11.00	13.65	13.50
Cashiers	9.26	11.08	8.36	10.68	10.76
Sales support, n.e.c.	14.70	–	–	14.56	11.15
Administrative support, including clerical	15.53	13.50	13.68	15.91	13.98
Supervisors, general office	21.29	18.92	19.07	22.90	19.67
Supervisors, financial records processing	20.96	–	–	–	–
Supervisors, distribution, scheduling, and adjusting clerks	19.48	–	–	–	22.82
Computer operators	15.52	–	17.67	21.39	–
Secretaries	17.22	15.25	15.54	18.97	16.74
Stenographers	18.96	–	–	21.52	–
Typists	14.00	14.13	11.79	14.92	14.01
Interviewers	12.85	–	–	–	10.86
Hotel clerks	11.44	8.24	–	–	–
Transportation ticket and reservation agents	16.32	15.15	–	14.65	13.87
Receptionists	12.64	9.91	10.43	11.76	11.04
Information clerks, n.e.c.	–	18.05	10.33	15.74	11.27
Order clerks	19.27	14.89	13.58	17.25	11.87
Personnel clerks, except payroll and timekeeping	14.30	14.24	16.15	18.89	14.41
Library clerks	12.46	9.66	9.79	15.83	12.87
File clerks	12.43	–	–	10.52	–
Records clerks, n.e.c.	14.42	13.19	11.80	12.67	13.72
Bookkeepers, accounting and auditing clerks	15.87	12.31	13.06	16.54	14.21
Payroll and timekeeping clerks	17.13	–	–	–	16.15
Billing clerks	12.92	12.90	11.67	15.74	–
Duplicating machine operators	–	–	–	–	12.83
Telephone operators	14.53	9.13	12.44	–	11.29
Mail clerks, except postal service	13.07	8.75	–	–	10.48
Messengers	9.36	–	–	–	–
Dispatchers	18.47	14.26	–	19.70	18.67
Production coordinators	–	–	21.27	17.23	16.61
Traffic, shipping and receiving clerks	12.88	–	12.71	16.11	10.15
Stock and inventory clerks	12.78	15.04	13.47	14.46	14.04
Meter readers	–	–	–	–	17.83
Material recording, scheduling, and distribution clerks, n.e.c.	13.69	10.06	14.73	15.04	–
Insurance adjusters, examiners, and investigators	18.93	–	13.37	–	–

See footnotes at end of table.

Table 20. **Mean hourly earnings[1] for selected occupations, all workers, all industries, selected areas,[2] April 2000–Continued**

Occupation[3]	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA	Washington-Baltimore, DC-MD-VA-WV	Detroit-Ann Arbor-Flint, MI	San Francisco-Oakland-San Jose, CA	Los Angeles-Riverside-Orange County CA
WHITE COLLAR–Continued					
Administrative support, including clerical–Continued					
Investigators and adjusters, except insurance	$16.60	$13.52	$12.36	$18.49	$16.67
Eligibility clerks, social welfare	15.71	14.26	–	19.25	13.85
Bill and account collectors	–	–	13.35	–	12.86
General office clerks	14.18	12.91	13.05	14.71	12.82
Bank tellers	10.79	–	10.52	10.04	8.99
Data entry keyers	12.11	9.71	9.43	10.83	13.15
Teachers' aides	14.73	10.94	11.09	11.73	12.45
Administrative support, n.e.c.	15.91	12.06	13.45	17.23	13.81
BLUE COLLAR	15.48	14.89	17.12	16.55	13.60
Precision production, craft, and repair	21.75	17.96	21.80	21.80	19.63
Supervisors, mechanics and repairers	25.26	–	23.88	26.43	26.55
Automobile mechanics	24.31	16.02	19.76	32.02	18.05
Bus, truck, and stationary engine mechanics	–	–	–	20.75	–
Heavy equipment mechanics	–	–	22.19	–	–
Industrial machinery repairers	18.60	18.30	21.08	–	20.05
Machinery maintenance	–	–	–	–	13.54
Electronic repairers, communications and industrial equipment	–	–	–	17.69	22.03
Millwrights	–	–	24.32	–	–
Mechanics and repairers, n.e.c.	20.74	19.01	21.07	21.70	17.08
Supervisors, electricians and power transmission installers	28.74	–	–	–	–
Supervisors, construction trades, n.e.c.	–	–	24.90	–	–
Carpenters	23.90	14.85	–	–	20.01
Electricians	23.12	21.14	25.25	30.18	24.78
Electrician apprentices	–	11.75	–	–	–
Painters, construction and maintenance	24.40	–	23.68	–	13.48
Plumbers, pipefitters and steamfitters	–	–	26.59	–	–
Construction trades, n.e.c.	–	–	17.04	22.16	19.44
Drillers, oil well	–	–	–	–	18.42
Supervisors, production	23.98	21.65	20.05	23.99	25.32
Tool and die makers	–	–	24.61	–	19.42
Machinists	–	–	21.67	–	18.34
Precision grinders, filers, and tool sharpeners	–	–	24.40	–	–
Electrical and electronic equipment assemblers	13.18	15.46	–	11.97	10.44
Butchers and meat cutters	–	–	14.31	–	10.08
Inspectors, testers, and graders	–	–	21.64	12.37	16.62
Water and sewer treatment plant operators	–	–	–	–	22.10
Stationary engineers	22.62	18.62	–	26.62	–
Machine operators, assemblers, and inspectors	11.26	14.10	15.97	13.02	10.45
Punching and stamping press operators	10.61	–	16.06	–	–
Grinding, abrading, buffing, and polishing machine operators	10.93	–	15.02	–	–
Fabricating machine operators, n.e.c.	11.74	–	21.74	–	11.80
Molding and casting machine operators	–	–	9.49	–	7.50
Printing press operators	–	17.77	–	–	14.09
Textile sewing machine operators	7.70	–	14.35	–	7.83
Laundering and dry cleaning machine operators	10.15	8.67	9.26	–	–
Packaging and filling machine operators	11.22	–	–	–	–
Mixing and blending machine operators	13.88	–	–	–	9.86
Photographic process machine operators	11.98	–	–	–	10.59
Miscellaneous machine operators, n.e.c.	12.67	11.16	13.45	12.92	11.61
Welders and cutters	–	–	18.66	–	16.30
Assemblers	8.80	17.67	17.35	12.31	10.06
Production inspectors, checkers and examiners	10.62	–	15.80	–	10.80
Transportation and material moving	16.21	14.52	15.87	16.44	13.24
Truck drivers	15.83	14.04	14.22	17.04	12.66
Driver-sales workers	–	9.79	–	–	–
Bus drivers	15.41	13.72	14.12	–	10.88
Taxicab drivers and chauffeurs	12.79	–	–	–	–
Motor transportation, n.e.c.	15.80	–	–	–	–
Crane and tower operators	–	–	20.04	–	–
Industrial truck and tractor equipment operators	15.63	16.39	15.86	17.38	12.76
Miscellaneous material moving equipment operators, n.e.c.	–	–	–	20.20	–
Handlers, equipment cleaners, helpers, and laborers	12.84	11.64	10.99	11.92	10.05
Groundskeepers and gardeners, except farm	12.51	10.19	13.99	16.17	11.21

See footnotes at end of table.

Table 20. **Mean hourly earnings[1] for selected occupations, all workers, all industries, selected areas,[2] April 2000**–Continued

Occupation[3]	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA	Washington-Baltimore, DC-MD-VA-WV	Detroit-Ann Arbor-Flint, MI	San Francisco-Oakland-San Jose, CA	Los Angeles-Riverside-Orange County CA
BLUE COLLAR–Continued					
Handlers, equipment cleaners, helpers, and laborers–Continued					
Supervisors, handlers, equipment cleaners, and laborers, n.e.c.	$19.86	–	–	–	–
Helpers, mechanics and repairers	–	–	–	–	$10.31
Helpers, construction trades	15.45	–	–	–	–
Construction laborers	–	–	–	–	9.69
Production helpers	9.82	–	–	–	8.74
Stock handlers and baggers	12.05	$10.22	$9.68	$10.46	10.68
Machine feeders and offbearers	–	–	–	–	10.12
Freight, stock, and material handlers, n.e.c.	12.24	13.29	11.06	15.59	9.66
Garage and service station related	–	–	–	9.33	–
Vehicle washers and equipment cleaners	–	10.63	–	–	7.30
Hand packers and packagers	11.03	11.52	10.53	8.31	8.87
Laborers, except construction, n.e.c.	11.84	10.13	13.17	14.89	10.67
SERVICE	14.02	10.85	10.91	13.61	11.59
Protective service	20.97	17.22	14.93	18.92	16.80
Supervisors, police and detectives	33.52	–	–	–	–
Firefighting	–	18.11	16.49	22.65	–
Police and detectives, public service	25.38	20.29	20.12	29.44	27.01
Sheriffs, bailiffs, and other law enforcement officers	21.72	17.58	–	24.25	22.91
Correctional institution officers	21.90	16.48	17.17	–	–
Crossing guards	–	–	7.49	–	–
Guards and police, except public service	11.66	9.23	8.78	10.18	8.07
Protective service, n.e.c.	15.09	17.85	–	–	–
Food service	8.94	7.68	7.86	9.48	8.05
Waiters, waitresses, and bartenders	6.59	4.69	5.55	8.87	6.29
Bartenders	9.33	–	–	–	8.00
Waiters and waitresses	6.35	4.00	4.14	8.63	5.92
Waiters' waitresses' assistants	5.54	6.67	–	9.27	6.27
Other food service	9.77	9.55	8.51	9.71	8.74
Supervisors, food preparation and service	15.38	15.15	–	–	16.05
Cooks	12.12	9.54	10.01	15.47	9.50
Food counter, fountain, and related	9.62	7.64	6.27	–	6.83
Kitchen workers, food preparation	11.25	8.49	8.17	9.30	8.28
Food preparation, n.e.c.	7.85	8.03	7.40	8.04	7.30
Health service	10.33	9.67	10.02	12.49	9.63
Health aides, except nursing	12.05	10.37	11.21	15.26	12.58
Nursing aides, orderlies and attendants	10.05	9.44	9.73	11.58	8.88
Cleaning and building service	12.64	9.28	11.91	11.81	8.52
Supervisors, cleaning and building service workers	19.64	13.85	13.91	–	12.79
Maids and housemen	13.36	8.71	7.99	10.23	7.76
Janitors and cleaners	12.03	9.01	12.18	12.08	8.21
Personal service	13.90	10.59	8.95	14.91	10.64
Attendants, amusement and recreation facilities	10.33	6.73	–	9.26	7.44
Public transportation attendants	28.18	22.79	–	–	25.98
Baggage porters and bellhops	–	–	–	7.45	–
Early childhood teachers' assistants	11.48	12.91	6.64	–	9.92
Child care workers, n.e.c.	9.68	8.80	10.27	14.42	10.29
Service, n.e.c.	10.82	9.41	8.37	12.17	8.26

n.e.c. = not elsewhere classified.

[1] Earnings are the straight-time hourly wages or salaries paid to employees. They include incentive pay, cost-of-living adjustments, hazard pay, deferred income payments, and deadhead pay. Excluded are shift differentials, premium pay for overtime, vacations and holidays, nonproduction bonuses, uniform and tool allowances, room and board, third party payments, on-call pay, and tips. The mean is computed by totaling the pay of all workers weighted by hours and dividing by the number of workers.

[2] The average payroll month for the selected areas was April 2000.

[3] A classification system including about 480 individual occupations is used to cover all workers in the civilian economy. Individual occupations are classified into 1 of 9 major occupational groups.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Overall occupational groups may include data for categories not shown separately.

Table 21. **Mean hourly earnings[1] by occupational group and level,[2] all workers, selected areas,[3] April 2000**

Occupational group[4] and level	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA	Washington-Baltimore, DC-MD-VA-WV	Detroit-Ann Arbor-Flint, MI	San Francisco-Oakland-San Jose, CA	Los Angeles-Riverside-Orange County, CA
Computer systems analysts and scientists	$37.09	$29.58	$27.69	$37.16	$28.42
Level 7	–	24.92	–	27.82	–
Level 8	–	–	–	30.71	–
Level 9	30.77	27.72	26.48	35.13	25.39
Level 10	30.88	27.33	–	34.04	–
Level 11	34.51	33.34	28.82	39.48	33.47
Level 12	41.33	40.17	–	43.09	–
Level 13	45.86	–	–	46.27	–
Level 14	57.53	–	–	–	–
Registered nurses	27.74	22.51	23.26	30.09	24.97
Level 7	28.24	20.49	23.05	29.96	–
Level 8	27.31	22.27	22.59	28.06	23.24
Level 9	26.33	22.80	22.79	30.09	25.37
Level 10	34.49	–	–	34.66	–
Level 11	30.23	29.44	29.03	–	–
Accountants and auditors	26.29	21.02	25.12	28.00	24.24
Level 5	18.19	13.64	–	–	–
Level 7	20.81	21.16	–	–	19.17
Level 8	24.78	20.21	23.08	18.31	–
Level 9	26.60	25.63	26.61	29.26	26.82
Level 10	29.96	–	–	–	–
Level 11	31.71	–	–	–	–
Cashiers	9.26	11.08	8.38	10.68	10.76
Level 1	–	–	7.47	–	–
Level 2	–	7.05	8.91	–	–
Level 3	10.33	9.81	9.43	10.98	10.41
Level 4	10.67	–	–	–	11.41
Secretaries	17.22	15.25	15.54	18.97	16.74
Level 2	–	13.92	–	–	–
Level 3	13.95	12.79	12.46	–	12.74
Level 4	15.54	13.98	15.01	17.05	13.98
Level 5	17.53	14.45	16.47	19.16	16.86
Level 6	19.03	17.82	–	21.12	16.47
Level 7	20.50	17.62	19.91	20.99	19.49
Truck drivers	15.83	14.04	14.22	17.04	12.66
Level 2	–	–	–	17.45	–
Level 3	16.15	8.99	–	–	8.53
Level 4	14.98	15.45	–	18.57	16.22
Level 5	–	15.20	–	–	–
Guards and police, except public service	11.66	9.23	8.78	10.18	8.07
Level 3	9.44	8.10	–	–	–
Level 4	13.70	–	–	–	–
Janitors and cleaners	12.03	9.01	12.18	12.08	9.21
Level 1	11.08	7.82	10.45	8.81	7.62
Level 2	9.82	8.77	13.24	10.47	9.09
Level 3	14.15	11.80	14.45	15.93	11.53
Level 4	13.57	–	13.83	11.29	–

[1] Earnings are the straight-time hourly wages or salaries paid to employees. They include incentive pay, cost-of-living adjustments, hazard pay, deferred income payments, and deadhead pay. Excluded are shift differentials, premium pay for overtime, vacations and holidays, nonproduction bonuses, uniform and tool allowances, room and board, third party payments, on-call pay, and tips. The mean is computed by totaling the pay of all workers weighted by hours and dividing by the number of workers.

[2] Each occupation for which wage data are collected in an establishment is evaluated based on 10 factors, including knowledge, complexity, work environment, and others. Points are assigned based on the occupation's ranking within each factor. The points are summed to determine the overall level of the occupation.

[3] The average payroll month for the selected areas was April 2000.

[4] A classification system including about 480 individual occupations is used to cover all workers in the civilian economy. Individual occupations are classified into 1 of 9 major occupational groups.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Overall occupational groups may include data for categories not shown separately.

Table 22. Hourly wage percentiles for establishment jobs,[1] all workers:[2] selected occupations, all industries, selected areas, April 2000

Occupation[3]	New York-Northern New Jersey-Long Island, NY-NJ-CT-PA					Washington-Baltimore, DC-MD-VA-WV					Detroit-Ann Arbor-Flint, MI				
	10	25	Median 50	75	90	10	25	Median 50	75	90	10	25	Median 50	75	90
Computer systems analysts and scientists	$25.25	$29.64	$35.18	$43.51	$52.94	$18.98	$22.74	$26.80	$34.88	$40.90	$21.02	$25.97	$27.15	$31.00	$33.57
Registered nurses	21.50	23.40	26.59	32.38	35.17	18.00	20.28	22.08	23.77	26.57	19.74	21.52	22.58	23.94	29.47
Accountants and auditors	19.81	20.60	24.72	31.25	36.06	13.44	16.35	19.82	23.35	28.30	20.20	21.74	24.27	25.09	38.27
Cashiers	6.48	7.25	7.53	9.79	15.84	5.89	7.50	10.72	15.74	15.89	6.68	7.00	8.00	8.53	12.23
Secretaries	12.84	14.15	17.00	19.84	22.30	11.29	12.78	14.17	17.44	20.07	10.87	12.31	14.27	17.36	22.12
Truck drivers	9.52	14.29	16.11	17.18	21.42	10.06	12.87	14.34	16.09	17.99	9.17	12.69	14.23	16.30	21.48
Guards and police, except public service	6.25	9.02	10.07	15.02	16.42	7.75	7.75	9.42	11.45	12.00	7.00	7.00	8.51	8.75	11.58
Janitors and cleaners	7.26	7.75	11.81	15.82	17.44	5.85	6.67	8.42	10.64	13.75	7.62	8.57	11.23	14.91	21.26

See footnotes at end of table.

Table 22. Hourly wage percentiles for establishment jobs,[1] all workers:[2] selected occupations, all industries, selected areas, April 2000 — Continued

Occupation[3]	Detroit-Ann Arbor-Flint, MI		San Francisco-Oakland-San Jose, CA					Los Angeles-Riverside-Orange County CA				
	75	90	10	25	Median 50	75	90	10	25	Median 50	75	90
Computer systems analysts and scientists	$31.00	$33.57	$26.05	$29.08	$36.79	$43.44	$48.05	$22.64	$24.17	$26.66	$32.38	$36.82
Registered nurses	23.94	29.47	23.08	26.62	30.87	32.91	36.39	20.15	22.40	24.64	27.48	29.87
Accountants and auditors	25.09	38.27	17.58	26.41	29.57	31.76	34.42	17.58	19.01	24.04	28.72	32.21
Cashiers	8.53	12.23	7.20	8.00	9.50	11.83	16.88	6.70	7.11	11.09	12.60	16.70
Secretaries	17.36	22.12	13.94	15.77	18.43	21.68	24.35	12.00	14.19	16.43	19.17	21.25
Truck drivers	16.30	21.48	9.89	15.41	18.71	20.49	22.06	7.17	7.89	11.24	17.02	19.03
Guards and police, except public service	8.75	11.58	8.50	8.50	8.50	10.55	15.14	6.12	7.35	7.75	8.11	9.84
Janitors and cleaners	14.91	21.26	7.64	8.08	11.88	14.75	18.03	6.00	6.25	6.42	9.83	13.74

[1] Percentiles are calculated from average hourly wages for sampled establishment jobs within each occupation. The percentiles describe the distribution of an occupation's employment by the average wage rates for its jobs. For example, at the 10th percentile hourly wage for an occupation, one-tenth of the occupation's employment are found in sampled establishment jobs whose average wages are the same or less, and nine-tenths are in jobs averaging the same or more. The calculations of the 25th, 50th, 75th, and 90th percentiles follow the same logic. Hourly wages are the straight-time wages or salaries paid to employees. They include incentive pay, cost-of-living adjustments, and hazard pay. Excluded are premium pay for overtime, vacations, holidays, nonproduction bonuses, and tips.

[2] All workers include full-time and part-time workers.

[3] A classification system including about 480 individual occupations is used to cover all workers in the civilian economy. Individual occupations are classified into 1 of 9 major occupational groups.

NOTE: Dashes indicate that no data were reported or that data did not meet publication criteria. Overall occupational groups may include data for categories not shown separately.

Table 23. **Average hourly earnings of production workers on private nonfarm payrolls by major industry division, annual averages, 1947-2000**

(In current dollars)

Year	Total private	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance and real estate	Services
1947	$1.13	$1.46	$1.54	$1.21	–	$1.21	$0.83	$1.14	–
1948	1.22	1.66	1.71	1.32	–	1.30	.90	1.20	–
1949	1.27	1.71	1.79	1.37	–	1.35	.95	1.26	–
1950	1.33	1.77	1.86	1.43	–	1.35	.98	1.26	–
1951	1.45	1.93	2.02	1.56	–	1.52	1.06	1.45	–
1952	1.52	2.01	2.13	1.64	–	1.61	1.09	1.51	–
1953	1.61	2.14	2.28	1.74	–	1.69	1.16	1.58	–
1954	1.66	2.14	2.38	1.78	–	1.76	1.20	1.65	–
1955	1.71	2.20	2.46	1.85	–	1.83	1.25	1.70	–
1956	1.80	2.33	2.57	1.95	–	1.93	1.30	1.78	–
1957	1.89	2.45	2.71	2.04	–	2.02	1.37	1.84	–
1958	1.95	2.47	2.82	2.10	–	2.09	1.42	1.89	–
1959	2.02	2.56	2.93	2.19	–	2.18	1.47	1.95	–
1960	2.09	2.60	3.07	2.26	–	2.24	1.52	2.02	–
1961	2.14	2.64	3.20	2.32	–	2.31	1.56	2.09	–
1962	2.22	2.70	3.31	2.39	–	2.37	1.63	2.17	–
1963	2.28	2.75	3.41	2.45	–	2.45	1.68	2.26	–
1964	2.36	2.81	3.55	2.53	$2.89	2.52	1.75	2.30	$1.94
1965	2.46	2.92	3.70	2.61	3.03	2.60	1.82	2.39	2.05
1966	2.56	3.05	3.89	2.71	3.11	2.73	1.91	2.47	2.17
1967	2.68	3.19	4.11	2.82	3.23	2.87	2.01	2.58	2.29
1968	2.85	3.35	4.41	3.01	3.42	3.04	2.16	2.75	2.42
1969	3.04	3.60	4.79	3.19	3.63	3.23	2.30	2.93	2.61
1970	3.23	3.85	5.24	3.35	3.85	3.43	2.44	3.07	2.81
1971	3.45	4.06	5.69	3.57	4.21	3.64	2.60	3.22	3.04
1972	3.70	4.44	6.06	3.82	4.65	3.85	2.75	3.36	3.27
1973	3.94	4.75	6.41	4.09	5.02	4.07	2.91	3.53	3.47
1974	4.24	5.23	6.81	4.42	5.41	4.38	3.14	3.77	3.75
1975	4.53	5.95	7.31	4.83	5.88	4.72	3.36	4.06	4.02
1976	4.86	6.46	7.71	5.22	6.45	5.02	3.57	4.27	4.31
1977	5.25	6.94	8.10	5.68	6.99	5.39	3.85	4.54	4.65
1978	5.69	7.67	8.66	6.17	7.57	5.88	4.20	4.89	4.99
1979	6.16	8.49	9.27	6.70	8.16	6.39	4.53	5.27	5.36
1980	6.66	9.17	9.94	7.27	8.87	6.95	4.88	5.79	5.85
1981	7.25	10.04	10.82	7.99	9.70	7.55	5.25	6.31	6.41
1982	7.68	10.77	11.63	8.49	10.32	8.08	5.48	6.78	6.92
1983	8.02	11.28	11.94	8.83	10.79	8.54	5.74	7.29	7.31
1984	8.32	11.63	12.13	9.19	11.12	8.88	5.85	7.63	7.59
1985	8.57	11.98	12.32	9.54	11.40	9.15	5.94	7.94	7.90
1986	8.76	12.46	12.48	9.73	11.70	9.34	6.03	8.36	8.18
1987	8.98	12.54	12.71	9.91	12.03	9.59	6.12	8.73	8.49
1988	9.28	12.80	13.08	10.19	12.24	9.98	6.31	9.06	8.88
1989	9.66	13.26	13.54	10.48	12.57	10.39	6.53	9.53	9.38
1990	10.01	13.68	13.77	10.83	12.92	10.79	6.75	9.97	9.83
1991	10.32	14.19	14.00	11.18	13.20	11.15	6.94	10.39	10.23
1992	10.57	14.54	14.15	11.46	13.43	11.39	7.12	10.82	10.54
1993	10.83	14.60	14.38	11.74	13.55	11.74	7.29	11.35	10.78
1994	11.12	14.88	14.73	12.07	13.78	12.06	7.49	11.83	11.04
1995	11.43	15.30	15.09	12.37	14.13	12.43	7.69	12.32	11.39
1996	11.82	15.62	15.47	12.77	14.45	12.87	7.99	12.80	11.79
1997	12.28	16.15	16.04	13.17	14.92	13.45	8.33	13.34	12.28
1998	12.78	16.91	16.61	13.49	15.31	14.07	8.74	14.07	12.84
1999	13.24	17.05	17.19	13.90	15.69	14.59	9.09	14.62	13.37
2000	13.75	17.24	17.88	14.38	16.22	15.20	9.46	15.07	13.91

Dash indicates data not available.

NOTE: Current estimates are projected from March 2000 benchmark levels.

Table 24. **Productivity and related data, business and nonfarm business sectors, 1947-2000**

(Index, 1992=100)

Year	Output per hour of all persons		Output[1]		Hours of all persons[2]		Compensation per hour[3]		Real compensation per hour[4]		Unit labor cost		Implicit price deflator[5]	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1947	31.8	36.7	20.7	20.3	65.0	55.3	6.8	7.3	39.6	42.5	21.4	19.9	20.5	19.2
1948	33.3	37.7	21.8	21.2	65.5	56.2	7.4	7.9	39.8	42.7	22.2	21.0	21.7	20.5
1949	34.0	39.0	21.6	21.0	63.3	53.9	7.5	8.2	40.9	44.6	22.0	21.0	21.5	20.7
1950	36.9	41.7	23.7	23.1	64.1	55.6	8.0	8.7	43.3	46.7	21.8	20.8	21.8	20.9
1951	38.0	42.7	25.2	24.9	66.1	58.2	8.8	9.4	44.0	47.1	23.2	22.1	23.5	22.3
1952	39.2	43.6	26.0	25.6	66.2	58.8	9.4	10.0	45.9	48.8	23.9	22.8	23.7	22.7
1953	40.7	44.6	27.2	26.9	67.0	60.2	10.0	10.5	48.5	51.2	24.5	23.6	23.9	23.2
1954	41.8	45.5	26.9	26.4	64.6	58.1	10.3	10.9	49.8	52.5	24.8	23.9	24.1	23.4
1955	43.3	47.4	29.0	28.6	67.0	60.4	10.6	11.3	51.3	54.7	24.4	23.8	24.4	23.8
1956	43.4	47.0	29.5	29.1	68.0	61.9	11.3	12.0	53.9	57.1	26.0	25.5	25.2	24.7
1957	44.7	48.2	30.0	29.7	67.0	61.6	12.0	12.7	55.6	58.5	26.9	26.3	26.0	25.4
1958	46.0	49.3	29.4	29.1	63.9	58.9	12.6	13.2	56.5	59.2	27.3	26.7	26.5	25.9
1959	47.9	51.3	31.9	31.6	66.6	61.6	13.1	13.7	58.4	61.1	27.4	26.7	26.7	26.2
1960	48.8	51.9	32.5	32.1	66.6	61.9	13.7	14.3	59.9	62.8	28.0	27.5	27.0	26.5
1961	50.6	53.7	33.1	32.8	65.5	61.1	14.2	14.8	61.8	64.4	28.1	27.6	27.2	26.7
1962	52.9	56.1	35.2	35.0	66.6	62.4	14.9	15.4	63.9	66.3	28.1	27.5	27.4	26.9
1963	55.0	58.1	36.8	36.6	67.0	63.1	15.4	16.0	65.4	67.7	28.0	27.5	27.6	27.1
1964	57.5	60.6	39.2	39.1	68.1	64.6	16.2	16.7	67.9	69.9	28.2	27.6	27.9	27.5
1965	59.6	62.4	41.9	41.9	70.4	67.1	16.8	17.2	69.3	71.1	28.2	27.6	28.4	27.8
1966	62.0	64.6	44.8	44.9	72.3	69.5	17.9	18.2	71.9	73.1	28.9	28.2	29.1	28.5
1967	63.4	65.8	45.6	45.7	72.0	69.4	19.0	19.3	73.7	75.1	29.9	29.4	29.9	29.4
1968	65.4	67.8	47.9	48.1	73.4	70.9	20.4	20.7	76.2	77.4	31.3	30.6	31.0	30.5
1969	65.7	67.9	49.4	49.5	75.2	73.0	21.9	22.2	77.4	78.4	33.3	32.6	32.4	31.9
1970	67.0	68.9	49.4	49.5	73.7	71.8	23.5	23.7	78.8	79.5	35.1	34.4	33.9	33.3
1971	69.9	71.8	51.3	51.4	73.3	71.5	25.0	25.3	80.3	81.1	35.8	35.2	35.3	34.7
1972	72.2	74.2	54.7	54.9	75.7	74.0	26.6	26.9	82.7	83.5	36.8	36.2	36.5	35.8
1973	74.5	76.6	58.5	58.9	78.5	76.9	28.9	29.1	84.5	85.1	38.8	38.0	38.4	37.0
1974	73.2	75.3	57.6	58.0	78.6	77.0	31.7	32.0	83.4	84.2	43.2	42.4	42.1	40.8
1975	75.8	77.4	57.0	57.0	75.2	73.7	34.9	35.2	84.3	84.9	46.1	45.5	46.1	45.1
1976	78.5	80.3	60.9	61.1	77.6	76.1	38.0	38.2	86.8	87.2	48.4	47.6	48.5	47.6
1977	79.8	81.5	64.3	64.6	80.6	79.2	41.0	41.3	87.9	88.5	51.4	50.7	51.4	50.6
1978	80.7	82.6	68.3	68.8	84.7	83.3	44.8	45.0	89.4	90.2	55.3	54.5	55.1	54.1
1979	80.7	82.2	70.6	70.9	87.5	86.3	48.9	49.3	89.7	90.3	60.7	59.9	59.8	58.7
1980	80.4	82.0	69.8	70.2	86.8	85.6	54.2	54.6	89.4	90.0	67.4	66.5	65.2	64.3
1981	82.0	83.0	71.7	71.8	87.4	86.2	59.4	59.9	89.5	90.2	72.4	72.1	71.2	70.5
1982	81.7	82.5	69.6	69.4	85.2	84.1	63.8	64.3	90.9	91.6	78.2	77.9	75.3	74.8
1983	84.6	86.3	73.3	73.8	86.6	85.6	66.5	67.1	91.0	91.7	78.6	77.8	77.8	77.2
1984	87.0	88.1	79.7	80.0	91.6	90.7	69.5	70.0	91.3	92.0	79.8	79.4	80.0	79.4
1985	88.7	89.3	83.1	83.0	93.6	93.0	72.9	73.2	92.7	93.1	82.1	82.0	82.2	81.9
1986	91.4	92.0	86.1	86.2	94.2	93.8	76.7	77.0	95.8	96.3	83.9	83.7	83.5	83.2
1987	91.9	92.3	89.2	89.3	97.0	96.7	79.7	80.0	96.3	96.6	86.7	86.6	85.6	85.4
1988	93.0	93.5	92.9	93.3	100.0	99.8	83.5	83.6	97.3	97.5	89.8	89.4	88.3	87.9
1989	93.9	94.2	96.2	96.5	102.4	102.4	85.8	85.8	95.9	95.9	91.3	91.1	91.5	91.2
1990	95.2	95.3	97.6	97.8	102.6	102.7	90.7	90.5	96.5	96.3	95.3	95.0	94.8	94.5
1991	96.3	96.4	96.5	96.6	100.2	100.2	95.0	95.0	97.5	97.5	98.7	98.5	98.1	98.0
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.5	100.5	103.1	103.3	102.6	102.9	102.5	102.2	99.9	99.6	101.9	101.7	102.2	102.2
1994	101.9	101.8	108.1	108.2	106.2	106.2	104.5	104.3	99.7	99.5	102.6	102.5	104.0	104.1
1995	102.6	102.8	111.5	111.8	108.7	108.8	106.7	106.6	99.3	99.2	104.1	103.7	106.0	106.1
1996	105.4	105.4	116.4	116.7	110.4	110.7	110.1	109.8	99.8	99.5	104.5	104.2	107.7	107.6
1997	107.8	107.5	122.5	122.7	113.6	114.1	113.5	113.1	100.7	100.3	105.3	105.2	109.7	109.8
1998	110.8	110.4	128.6	129.0	116.1	116.8	119.6	119.0	104.6	104.0	108.0	107.7	110.6	110.8
1999	113.6	113.2	134.8	135.1	118.4	119.3	125.1	124.2	107.1	106.4	109.9	109.7	111.8	112.3
2000	118.6	118.1	142.4	142.8	120.0	120.9	131.4	130.5	108.9	108.1	110.7	110.5	113.8	114.3

[1] Output is an annual-weighted index of real gross domestic product of the sector.

[2] Hours at work of all persons engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.

[3] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.

[4] Hourly compensation divided by an index of consumer prices.

[5] Current dollar gross domestic product divided by the index of real gross domestic product.

Table 25. **Changes in productivity and related data, business and nonfarm business sectors, 1948-2000**

(Percent change from previous year)

Year	Output per hour of all persons		Output[1]		Hours of all persons[2]		Compensation per hour[3]		Real compensation per hour[4]		Unit labor cost		Implicit price deflator[5]	
	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector	Business sector	Nonfarm business sector
1948	4.6	2.7	5.4	4.4	0.8	1.7	8.5	8.6	0.4	0.5	3.7	5.8	6.2	6.8
1949	2.3	3.4	-1.1	-0.8	-3.3	-4.0	1.5	3.1	2.8	4.4	-0.8	-0.3	-0.9	0.9
1950	8.5	6.9	9.8	10.2	1.2	3.1	7.3	6.2	6.0	4.8	-1.1	-0.7	1.1	1.1
1951	3.0	2.5	6.3	7.4	3.2	4.8	9.6	8.6	1.6	0.7	6.4	6.0	7.7	6.6
1952	3.1	2.1	3.2	3.1	0.1	1.0	6.3	5.6	4.3	3.6	3.1	3.5	1.1	1.8
1953	3.7	2.3	4.9	4.8	1.1	2.4	6.5	5.7	5.7	4.9	2.7	3.3	0.8	2.0
1954	2.2	2.0	-1.3	-1.6	-3.5	-3.5	3.3	3.3	2.6	2.6	1.1	1.3	0.8	1.0
1955	4.1	4.2	7.9	8.3	3.7	4.0	2.6	3.8	3.0	4.1	-1.4	-0.4	1.3	1.8
1956	0.1	-0.8	1.6	1.7	1.5	2.5	6.6	6.1	5.1	4.5	6.5	6.9	3.2	3.5
1957	3.2	2.5	1.7	2.0	-1.5	-0.6	6.5	5.8	3.1	2.4	3.3	3.1	3.2	3.2
1958	2.9	2.3	-1.9	-2.1	-4.8	-4.3	4.6	4.1	1.7	1.2	1.6	1.8	1.9	1.6
1959	4.0	4.0	8.3	8.8	4.1	4.6	4.2	4.0	3.5	3.3	0.1	0.0	0.7	1.2
1960	1.9	1.3	1.9	1.7	0.0	0.4	4.3	4.5	2.6	2.7	2.4	3.1	1.1	1.2
1961	3.7	3.4	2.0	2.0	-1.7	-1.3	4.1	3.6	3.1	2.5	0.4	0.2	0.8	0.8
1962	4.6	4.5	6.4	6.8	1.7	2.2	4.5	4.0	3.4	3.0	-0.1	-0.5	1.0	1.0
1963	3.9	3.5	4.6	4.6	0.6	1.1	3.7	3.5	2.3	2.2	-0.2	0.0	0.6	0.7
1964	4.6	4.2	6.4	6.7	1.7	2.4	5.1	4.6	3.8	3.2	0.5	0.3	1.1	1.2
1965	3.6	3.1	7.0	7.1	3.3	3.8	3.8	3.3	2.1	1.7	0.2	0.2	1.8	1.4
1966	4.1	3.5	6.8	7.2	2.6	3.6	6.7	5.8	3.7	2.9	2.5	2.2	2.5	2.3
1967	2.2	1.7	1.9	1.7	-0.3	-0.1	5.7	5.9	2.6	2.7	3.5	4.1	2.7	3.2
1968	3.1	3.1	5.0	5.3	1.8	2.1	7.7	7.4	3.4	3.1	4.4	4.2	3.9	3.8
1969	0.5	0.1	3.0	3.0	2.5	2.9	7.0	6.8	1.8	1.3	6.5	6.7	4.5	4.4
1970	2.0	1.5	0.0	-0.1	-2.0	-1.6	7.7	7.2	1.9	1.4	5.6	5.6	4.4	4.5
1971	4.4	4.2	3.9	3.8	-0.4	-0.3	6.4	6.5	1.9	2.0	1.9	2.2	4.3	4.4
1972	3.3	3.4	6.6	6.9	3.3	3.4	6.2	6.4	2.9	3.0	2.8	2.9	3.3	2.9
1973	3.2	3.1	7.0	7.3	3.7	4.0	8.5	8.2	2.2	1.9	5.2	4.9	5.2	3.6
1974	-1.7	-1.6	-1.5	-1.5	0.1	0.1	9.7	9.8	-1.2	-1.1	11.6	11.6	9.6	10.2
1975	3.5	2.7	-1.0	-1.7	-4.3	-4.3	10.3	10.1	1.0	0.9	6.5	7.2	9.6	10.6
1976	3.6	3.7	6.8	7.2	3.1	3.4	8.8	8.6	2.9	2.7	5.1	4.7	5.2	5.4
1977	1.6	1.5	5.6	5.6	3.9	4.0	7.9	8.0	1.3	1.4	6.1	6.4	6.1	6.4
1978	1.1	1.3	6.2	6.5	5.0	5.1	8.8	8.9	1.8	1.9	7.6	7.6	7.2	6.8
1979	0.0	-0.4	3.3	3.2	3.4	3.6	9.7	9.5	0.3	0.1	9.8	10.0	8.5	8.5
1980	-0.3	-0.3	-1.1	-1.1	-0.9	-0.8	10.8	10.8	-0.3	-0.3	11.1	11.1	9.1	9.7
1981	1.9	1.2	2.7	2.0	0.7	0.8	9.5	9.7	0.1	0.3	7.4	8.3	9.2	9.5
1982	-0.4	-0.6	-2.9	-3.1	-2.6	-2.5	7.5	7.5	1.6	1.5	8.0	8.1	5.7	6.2
1983	3.6	4.5	5.4	6.4	1.6	1.8	4.2	4.3	0.1	0.1	0.6	-0.2	3.4	3.2
1984	2.8	2.2	8.8	8.3	5.8	6.0	4.4	4.3	0.4	0.3	1.5	2.1	2.9	2.8
1985	2.0	1.3	4.2	3.9	2.2	2.5	4.9	4.7	1.5	1.2	2.9	3.3	2.7	3.2
1986	3.0	3.0	3.7	3.8	0.7	0.8	5.2	5.2	3.4	3.4	2.1	2.1	1.6	1.7
1987	0.5	0.4	3.5	3.5	3.0	3.2	3.9	3.8	0.5	0.4	3.4	3.4	2.5	2.5
1988	1.2	1.3	4.3	4.5	3.0	3.2	4.8	4.5	1.1	0.9	3.5	3.2	3.1	3.0
1989	1.0	0.8	3.5	3.4	2.5	2.6	2.8	2.7	-1.5	-1.6	1.8	1.9	3.7	3.7
1990	1.3	1.1	1.5	1.4	0.2	0.3	5.7	5.5	0.6	0.4	4.3	4.3	3.5	3.6
1991	1.1	1.2	-1.2	-1.3	-2.3	-2.4	4.7	4.9	1.0	1.2	3.6	3.6	3.5	3.7
1992	3.9	3.7	3.7	3.5	-0.2	-0.2	5.3	5.3	2.6	2.6	1.4	1.6	2.0	2.1
1993	0.5	0.5	3.1	3.3	2.6	2.9	2.5	2.2	-0.1	-0.4	1.9	1.7	2.2	2.2
1994	1.3	1.3	4.9	4.7	3.5	3.3	2.0	2.1	-0.2	-0.1	0.7	0.8	1.8	1.9
1995	0.7	0.9	3.1	3.4	2.4	2.4	2.1	2.1	-0.4	-0.4	1.4	1.2	2.0	2.0
1996	2.8	2.5	4.4	4.3	1.6	1.7	3.2	3.0	0.4	0.3	0.4	0.5	1.6	1.4
1997	2.3	2.0	5.2	5.1	2.9	3.1	3.1	3.0	0.9	0.8	0.8	0.9	1.8	2.1
1998	2.8	2.7	5.0	5.1	2.2	2.4	5.3	5.2	3.9	3.8	2.5	2.5	0.8	0.9
1999	2.8	2.6	4.8	4.8	2.0	2.2	4.6	4.4	2.4	2.3	1.8	1.8	1.1	1.3
2000	4.2	4.3	5.6	5.7	1.3	1.3	5.0	5.1	1.6	1.6	0.8	0.7	1.8	1.8

[1]Output is an annual-weighted index of real gross domestic product of the sector.

[2]Hours at work of all persons engaged in the sector, including hours of proprietors and unpaid family workers. Estimates based primarily on establishment data.

[3]Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.

[4]Hourly compensation divided by an index of consumer prices.

[5]Current dollar gross domestic product divided by the index of real gross domestic product.

NOTE: Percent changes are based on original data and therefore may differ slightly from percent changes based on indexes.

Table 26. **Private business sector: Productivity and related measures, 1948-99**[1]

(Indexes 1996=100)

Year	Productivity			Output[2]	Inputs			Capital per hour of all persons
	Output per hour of all persons	Output per unit of capital	Multifactor productivity[3]		Labor input[4]	Capital services[5]	Combined units of labor and capital inputs[6]	
1948	31.1	107.8	51.5	18.6	51.1	17.3	36.2	28.8
1949	32.2	104.8	52.1	18.6	49.4	17.7	35.6	30.7
1950	35.0	111.0	55.9	20.5	50.3	18.4	36.6	31.5
1955	40.9	114.7	61.9	24.9	53.7	21.7	40.3	35.6
1960	45.6	111.1	65.3	27.5	54.0	24.8	42.2	41.1
1965	55.9	122.4	78.4	35.6	58.0	29.1	46.7	45.7
1966	58.2	123.7	78.7	38.1	59.5	30.8	48.3	47.0
1967	59.5	119.0	78.8	38.8	59.4	32.6	49.2	50.0
1968	61.4	119.8	80.9	40.7	60.3	34.0	50.4	51.2
1969	61.7	117.5	80.4	42.0	62.1	35.7	52.2	52.5
1970	63.0	112.3	80.3	42.0	61.0	37.4	52.3	56.1
1971	65.8	112.0	82.8	43.6	60.5	38.9	52.7	58.8
1972	68.0	114.6	85.3	46.5	62.6	40.6	54.6	59.3
1973	70.2	116.1	87.6	49.8	64.8	42.9	56.9	60.4
1974	69.0	108.4	84.4	49.0	65.2	45.2	58.1	63.6
1975	71.5	103.4	85.2	48.5	62.4	46.9	57.0	69.1
1976	74.1	107.1	88.4	51.9	64.2	48.4	58.7	69.1
1977	75.2	108.9	89.8	54.8	66.8	50.3	61.0	69.1
1978	76.1	110.9	91.0	58.2	70.2	52.5	64.0	68.6
1979	76.0	109.1	90.8	60.2	72.4	55.1	66.4	69.6
1980	75.8	102.7	88.6	59.4	71.9	57.9	67.1	73.8
1981	77.3	100.5	88.8	61.0	73.0	60.8	68.8	76.9
1982	77.2	93.6	86.1	59.3	71.7	63.3	68.9	82.4
1983	79.9	95.7	88.5	62.5	73.4	65.3	70.6	83.4
1984	82.2	99.7	91.4	68.1	77.7	68.3	74.5	82.4
1985	83.9	99.2	92.4	71.0	79.6	71.5	76.9	84.6
1986	86.5	98.8	93.8	73.6	80.5	74.6	78.5	87.6
1987	87.0	98.9	94.1	76.3	83.1	77.1	81.1	88.0
1988	88.1	100.2	94.7	79.6	85.3	79.4	84.0	87.9
1989	89.0	100.8	95.3	82.4	88.9	81.8	86.5	88.3
1990	90.2	99.5	95.4	83.6	89.4	84.0	87.8	90.6
1991	91.3	96.3	94.5	82.6	88.3	85.8	87.5	94.8
1992	94.8	97.8	96.6	85.7	89.3	87.6	88.7	96.9
1993	95.4	98.6	97.1	88.5	91.8	89.8	91.1	98.7
1994	96.6	100.3	98.1	92.8	95.6	92.5	94.6	96.3
1995	97.3	99.7	98.4	95.8	98.0	96.0	97.3	97.6
1996	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1997	102.2	100.3	101.2	105.2	103.5	104.9	104.0	101.9
1998	105.1	99.6	102.6	110.6	106.1	111.0	107.7	105.5
1999	107.9	98.1	103.5	115.8	108.9	116.1	111.9	110.0

[1] The private business sector includes all of gross domestic product except the output of general government, government enterprises, non-profit institutions, the rental value of owner-occupied real estate and the output of paid employees of private households.

[2] Output per unit of combined labor and capital inputs.

[3] Gross domestic product originating in the sector, superlative chained index.

[4] Index of the hours at work of all persons including employees, proprietors, and unpaid family workers classified by education, work experience and gender. This supertetive chain index is computed by combining changes in the hours of each education, experience and gender group weighted by each group's share of labor compensation.

[5] A measure of the flow of capital services used in the sector.

[6] Labor input combined with capital input, using labor's and capital's shares of costs as weights to form a superlative chain index.

Source: Output data are from the Bureau of Economic Analysis (BEA), U.S. Department of Commerce, and modified by the Bureau of Labor Statistics (BLS), U.S. Department of Labor. Compensation and hours data are from the BLS. Capital measures are based on data supplied by BEA and the U.S. Department of Agriculture.

Table 27. **Productivity and related data: Nonfinancial corporate sector, 1958-2000**

(Index, 1992=100, and percent change from preceding year)

Year	Output per hour of all persons		Output[1]		Employee hours[2]		Compensation per hour[3]		Real compensation per hour[4]		Unit labor cost		Implicit price deflator[5]	
	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year
1958	51.8	-	25.5	-	49.3	-	14.4	-	64.7	-	27.8	-	28.4	-
1959	54.4	5.0	28.4	11.3	52.3	6.0	14.9	3.7	66.7	3.0	27.5	-1.1	28.6	0.8
1960	55.4	1.8	29.4	3.3	53.0	1.4	15.6	4.2	68.3	2.4	28.1	2.3	28.8	0.7
1961	57.3	3.4	30.0	2.2	52.4	-1.2	16.1	3.5	70.0	2.5	28.1	0.1	28.9	0.4
1962	59.7	4.1	32.5	8.3	54.5	4.0	16.7	3.8	71.9	2.8	28.0	-0.3	29.1	0.8
1963	61.7	3.5	34.4	5.9	55.8	2.3	17.2	3.0	73.1	1.7	27.9	-0.4	29.3	0.5
1964	64.1	3.8	36.9	7.0	57.5	3.1	18.0	4.2	75.2	2.9	28.0	0.3	29.6	0.9
1965	65.8	2.6	39.9	8.3	60.7	5.5	18.5	3.0	76.3	1.4	28.1	0.4	30.0	1.5
1966	66.7	1.4	42.7	7.0	64.0	5.5	19.5	5.3	78.1	2.4	29.2	3.9	30.7	2.4
1967	67.7	1.5	43.8	2.6	64.7	1.1	20.6	5.5	80.0	2.4	30.4	4.0	31.5	2.6
1968	70.0	3.5	46.6	6.4	66.5	2.8	22.1	7.6	82.6	3.3	31.6	4.0	32.7	3.8
1969	70.0	0.1	48.4	4.0	69.2	3.9	23.6	6.8	83.6	1.2	33.7	6.7	34.1	4.4
1970	70.4	0.5	48.0	-1.0	68.2	-1.5	25.3	7.0	84.6	1.2	35.9	6.5	35.6	4.4
1971	73.3	4.2	49.9	4.0	68.0	-0.2	26.9	6.3	86.2	1.8	36.7	2.0	37.0	3.8
1972	75.3	2.7	53.8	7.9	71.5	5.1	28.4	5.8	88.3	2.5	37.8	3.0	38.1	3.0
1973	76.1	1.1	57.0	5.9	74.9	4.8	30.7	8.0	89.8	1.7	40.4	6.9	40.3	5.9
1974	74.4	-2.1	56.0	-1.7	75.2	0.4	33.6	9.6	88.6	-1.3	45.2	12.0	44.4	10.0
1975	77.2	3.8	55.1	-1.6	71.3	-5.1	37.0	9.9	89.3	0.7	47.9	5.9	48.8	9.9
1976	79.7	3.2	59.5	7.9	74.6	4.6	40.0	8.3	91.4	2.4	50.2	4.9	51.0	4.6
1977	81.6	2.4	63.6	7.3	78.2	4.8	43.1	7.8	92.5	1.2	52.9	5.3	53.8	5.4
1978	82.1	0.6	68.1	6.7	82.9	6.0	46.8	8.5	93.8	1.5	57.0	7.8	57.4	6.8
1979	81.5	-0.7	70.2	3.1	86.1	3.9	51.1	9.3	93.7	-0.1	62.7	10.1	62.0	8.0
1980	81.1	-0.5	69.2	-1.4	85.3	-0.9	56.4	10.4	93.1	-0.7	69.6	10.9	68.4	10.3
1981	82.6	1.9	71.5	3.3	86.5	1.4	61.6	9.2	92.9	-0.2	74.6	7.2	75.3	10.1
1982	83.4	0.9	70.0	-2.1	83.9	-3.0	66.0	7.2	94.1	1.3	79.2	6.2	79.6	5.7
1983	85.9	3.1	73.3	4.8	85.3	1.6	68.4	3.6	93.5	-0.6	79.6	0.5	81.1	1.8
1984	88.2	2.6	80.2	9.5	91.0	6.7	71.2	4.1	93.6	0.1	80.7	1.5	83.2	2.7
1985	89.9	2.0	83.8	4.5	93.2	2.5	74.4	4.5	94.6	1.1	82.7	2.5	84.5	1.5
1986	91.7	1.9	85.9	2.4	93.7	0.5	78.0	4.8	97.5	3.0	85.1	2.8	85.5	1.2
1987	94.7	3.3	90.7	5.6	95.8	2.2	81.7	4.7	98.7	1.2	86.2	1.3	87.0	1.8
1988	95.9	1.3	95.8	5.6	99.9	4.2	84.2	3.1	98.1	-0.6	87.7	1.8	89.4	2.7
1989	94.7	-1.2	97.4	1.7	102.8	2.9	86.3	2.6	96.5	-1.7	91.1	3.8	92.5	3.5
1990	95.4	0.7	98.3	0.9	103.0	0.2	90.8	5.2	96.7	0.2	95.2	4.5	95.8	3.6
1991	97.7	2.3	97.5	-0.8	99.8	-3.1	95.3	4.9	97.8	1.2	97.5	2.5	98.3	2.6
1992	100.0	2.4	100.0	2.6	100.0	0.2	100.0	5.0	100.0	2.3	100.0	2.5	100.0	1.8
1993	100.7	0.7	103.0	3.0	102.3	2.3	102.0	2.0	99.5	-0.5	101.3	1.3	102.1	2.1
1994	103.1	2.4	109.6	6.4	106.3	3.9	104.2	2.1	99.4	-0.1	101.0	-0.3	103.7	1.6
1995	104.2	1.0	114.2	4.2	109.6	3.1	106.2	1.9	98.8	-0.6	101.9	0.8	105.1	1.4
1996	107.5	3.2	119.9	5.0	111.5	1.8	109.0	2.6	98.7	-0.1	101.4	-0.5	105.5	0.4
1997	108.4	0.9	127.0	5.9	117.1	5.0	110.3	1.3	97.8	-0.9	101.8	0.4	106.2	0.7
1998	112.3	3.5	134.9	6.3	120.2	2.6	115.9	5.0	101.3	3.6	103.2	1.4	106.6	0.3
1999	116.2	3.5	142.9	5.9	123.0	2.3	121.1	4.5	103.7	2.3	104.2	1.0	107.4	0.8
2000	121.1	4.2	151.6	6.1	125.2	1.8	126.8	4.8	105.1	1.4	104.8	0.6	108.8	1.2

[1] Output is an annual-weighted index of real gross domestic product originating in the sector.

[2] Hours at work of all employees engaged in the sector. Estimates based primarily on establishment data.

[3] Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans.

[4] Hourly compensation divided by an index of consumer prices.

[5] Current dollar gross domestic product divided by the index of real gross domestic product.

NOTE: Percent changes are based on original data and therefore may differ slightly from percent changes based on indexes.

Dash indicates data not available.

Table 28. **Productivity and related data: Manufacturing sector, 1949-2000**

(Index, 1992=100, and percent change from preceding year)

Year	Output per hour of all persons		Output[1]		Hours of all persons[2]		Compensation per hour[3]		Real compensation per hour[4]		Unit labor cost		Implicit price deflator[5]	
	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year	Index	Change from previous year
1949	33.5	-	26.5	-	79.1	-	8.3	-	45.1	-	24.6	-	24.0	-
1950	34.0	1.5	29.1	9.7	85.5	8.1	8.7	5.1	46.8	3.7	25.5	3.5	24.5	2.3
1951	33.8	-0.7	31.1	7.0	92.1	7.7	9.5	10.1	47.7	2.0	28.3	10.8	26.8	9.2
1952	35.2	4.2	32.9	5.6	93.3	1.3	10.2	6.6	49.9	4.6	28.9	2.3	26.7	-0.4
1953	36.4	3.2	35.7	8.5	98.1	5.1	10.7	5.5	52.2	4.7	29.5	2.2	26.6	-0.3
1954	37.3	2.6	33.4	-6.3	89.6	-8.6	11.2	4.6	54.2	3.8	30.1	1.9	27.0	1.4
1955	38.8	4.0	36.7	9.7	94.6	5.5	11.7	3.9	56.5	4.3	30.1	-0.1	27.2	0.8
1956	38.6	-0.4	37.1	1.0	96.0	1.5	12.4	6.4	59.3	4.9	32.1	6.9	28.1	3.5
1957	39.4	2.0	37.2	0.4	94.5	-1.6	13.2	6.0	60.8	2.6	33.4	3.9	29.2	3.6
1958	40.0	1.6	34.7	-6.8	86.6	-8.3	13.8	4.6	61.8	1.7	34.4	3.0	29.9	2.5
1959	40.9	2.2	37.8	9.1	92.5	6.7	14.3	3.7	63.7	3.0	34.9	1.5	30.3	1.3
1960	41.8	2.1	38.5	1.7	92.1	-0.4	14.9	4.2	65.2	2.4	35.6	2.0	30.2	-0.2
1961	42.8	2.5	38.4	-0.2	89.7	-2.6	15.3	2.9	66.5	1.9	35.7	0.5	30.3	0.2
1962	44.2	3.2	41.3	7.5	93.4	4.1	15.9	3.8	68.3	2.8	36.0	0.6	30.3	0.1
1963	45.7	3.5	43.1	4.5	94.4	1.0	16.4	3.0	69.4	1.7	35.8	-0.4	30.3	0.0
1964	47.4	3.8	45.7	6.0	96.4	2.1	17.0	4.2	71.4	2.8	36.0	0.4	30.3	0.2
1965	48.5	2.4	49.5	8.3	102.0	5.8	17.4	2.1	71.8	0.5	35.9	-0.2	30.7	1.1
1966	49.1	1.1	53.3	7.7	108.6	6.5	18.2	4.5	73.0	1.6	37.1	3.4	31.5	2.8
1967	50.9	3.7	54.9	3.1	108.0	-0.6	19.2	5.5	74.6	2.3	37.7	1.7	32.0	1.5
1968	52.7	3.5	57.7	5.1	109.6	1.5	20.7	7.7	77.1	3.3	39.2	4.0	32.7	2.2
1969	53.5	1.7	59.4	2.9	110.9	1.2	22.2	7.3	78.5	1.7	41.4	5.5	33.8	3.3
1970	54.2	1.1	56.5	-4.8	104.4	-5.9	23.7	7.1	79.4	1.3	43.8	5.8	35.0	3.4
1971	57.8	6.8	58.2	2.9	100.5	-3.7	25.2	6.1	80.7	1.6	43.5	-0.7	36.2	3.6
1972	60.3	4.2	63.3	8.9	105.1	4.5	26.5	5.2	82.3	1.9	43.9	0.9	37.4	3.4
1973	61.4	1.9	67.6	7.1	110.4	5.1	28.5	7.7	83.4	1.4	46.4	5.6	40.3	7.7
1974	61.2	-0.3	66.1	-2.5	107.9	-2.2	31.6	11.0	83.4	0.0	51.7	11.4	47.3	17.3
1975	64.3	5.0	62.5	-5.5	97.2	-9.9	35.5	12.1	85.6	2.7	55.2	6.7	53.0	11.9
1976	67.0	4.2	68.2	9.2	101.9	4.8	38.4	8.4	87.7	2.5	57.4	4.1	55.3	4.3
1977	69.7	4.0	73.9	8.4	106.1	4.2	41.8	8.7	89.6	2.1	60.0	4.5	58.7	6.2
1978	70.4	1.0	77.8	5.2	110.6	4.2	45.2	8.1	90.6	1.1	64.2	7.0	62.7	6.8
1979	69.8	-0.8	78.7	1.1	112.7	2.0	49.6	9.8	90.9	0.4	71.1	10.7	69.8	11.5
1980	70.1	0.4	75.3	-4.2	107.5	-4.6	55.6	12.0	91.6	0.8	79.3	11.6	79.9	14.4
1981	70.7	0.9	75.6	0.4	107.0	-0.5	61.1	9.9	92.1	0.5	86.3	8.9	87.1	9.1
1982	74.2	5.0	72.7	-3.9	97.9	-8.4	67.0	9.7	95.4	3.6	90.2	4.5	89.6	2.8
1983	76.7	3.3	75.9	4.4	98.9	1.0	68.8	2.8	94.1	-1.3	89.7	-0.6	90.0	0.4
1984	79.5	3.6	83.7	10.3	105.3	6.5	71.2	3.5	93.6	-0.5	89.6	-0.1	91.5	1.6
1985	82.3	3.6	86.0	2.8	104.6	-0.7	75.1	5.5	95.5	2.0	91.3	1.8	91.0	-0.6
1986	85.9	4.4	88.5	2.8	103.0	-1.5	78.5	4.5	98.1	2.7	91.3	0.1	87.5	-3.9
1987	88.3	2.8	91.6	3.6	103.8	0.8	80.7	2.9	97.5	-0.5	91.4	0.1	89.2	2.0
1988	90.2	2.2	96.1	4.9	106.6	2.7	84.0	4.1	97.9	0.4	93.1	1.9	91.8	2.9
1989	90.3	0.1	96.8	0.5	107.1	0.5	86.6	3.2	96.8	-1.1	96.0	3.1	95.6	4.1
1990	92.9	2.9	97.3	0.7	104.8	-2.1	90.8	4.8	96.6	-0.2	97.8	1.9	99.0	3.6
1991	95.0	2.3	95.4	-2.0	100.4	-4.2	95.6	5.3	98.1	1.5	100.6	2.9	99.6	0.6
1992	100.0	5.3	100.0	4.8	100.0	-0.4	100.0	4.6	100.0	1.9	100.0	-0.6	100.0	0.4
1993	101.9	1.9	103.3	3.3	101.4	1.4	102.7	2.7	100.2	0.2	100.8	0.8	100.9	0.9
1994	105.0	3.0	108.7	5.3	103.6	2.2	105.6	2.8	100.8	0.6	100.7	-0.2	102.0	1.1
1995	109.0	3.8	113.4	4.3	104.0	0.4	107.9	2.1	100.4	-0.4	99.0	-1.7	103.9	1.8
1996	112.8	3.5	117.0	3.1	103.7	-0.3	109.3	1.3	99.0	-1.4	96.9	-2.1	104.9	1.0
1997	117.6	4.3	124.1	6.1	105.5	1.7	111.4	1.9	98.8	-0.2	94.7	-2.3	104.1	-0.7
1998	124.0	5.4	130.4	5.1	105.2	-0.3	117.3	5.3	102.6	3.8	94.6	-0.1	100.5	-3.5
1999	129.6	4.5	135.2	3.7	104.3	-0.8	122.0	4.0	104.5	1.9	94.1	-0.5	101.1	0.6
2000	138.5	6.9	142.9	5.7	103.2	-1.1	128.4	5.2	106.4	1.8	92.7	-1.6	-	-

[1]Output is an annual-weighted index of real gross sectoral product.

[2]Hours at work of all persons engaged in the sector, including hours of proprietors. Estimates based primarily on establishment data.

[3]Wages and salaries of employees plus employers' contributions for social insurance and private benefit plans. Also includes an estimate of wages, salaries, and supplemental payments for the self-employed.

[4]Hourly compensation divided by an index of consumer prices.

[5]Current dollar sectoral product divided by the index of real sectoral product.

NOTE: Percent changes are based on original data and therefore may differ slightly from percent changes based on indexes.

Dash indicates data not available.

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Table 29. **Annual indexes of output per hour for selected 3-digit SIC industries, 1993-99**

(Index, 1987=100)

Industry	SIC code[1]	1993	1994	1995	1996	1997	1998	1999	Average annual percent change 1990-99[1]
Mining									
Copper ores	102	118.1	126.0	117.2	116.5	118.9	118.3	105.5	0.3
Gold and silver ores	104	159.8	160.8	144.2	138.3	158.5	187.6	200.0	5.6
Bituminous coal and lignite mining	122	141.2	148.1	155.9	168.0	176.6	188.0	192.2	5.5
Crude petroleum and natural gas	131	105.9	112.4	119.4	123.9	125.2	127.4	132.3	3.5
Crushed and broken stone	142	103.6	108.7	105.4	107.2	112.6	110.2	104.8	0.3
Manufacturing									
Meat products	201	104.3	101.2	102.3	97.4	102.5	102.3	102.2	0.6
Dairy products	202	109.6	111.8	116.4	116.0	119.3	119.3	114.1	0.7
Preserved fruits and vegetables	203	106.8	107.6	109.1	109.2	110.7	117.8	120.0	2.6
Grain mill products	204	109.2	108.4	115.4	108.0	118.2	126.2	130.4	2.4
Bakery products	205	94.4	96.4	97.3	95.6	99.1	100.8	107.5	1.7
Sugar and confectionery products	206	104.5	106.2	108.3	113.8	116.7	123.0	130.0	2.6
Fats and oils	207	112.6	111.8	120.3	110.1	120.2	137.3	156.1	3.1
Beverages	208	126.4	130.1	133.5	135.0	135.5	136.4	132.4	1.4
Miscellaneous food and kindred products	209	105.2	100.9	102.9	109.1	104.1	112.7	116.3	1.8
Cigarettes	211	106.5	126.6	142.9	147.2	147.2	152.2	135.8	2.0
Broadwoven fabric mills, cotton	221	117.8	122.1	134.0	137.3	131.2	136.2	138.7	3.4
Broadwoven fabric mills, manmade	222	131.7	142.5	145.3	147.6	162.2	168.6	171.9	5.0
Narrow fabric mills	224	111.4	120.1	118.9	126.3	110.8	117.7	122.4	2.7
Knitting mills	225	127.9	134.1	138.3	150.3	138.0	135.9	144.8	3.4
Textile finishing, except wool	226	79.3	81.2	78.5	79.2	94.3	99.1	101.0	2.1
Carpets and rugs	227	97.1	93.3	95.8	100.2	100.3	102.3	97.8	0.5
Yarn and thread mills	228	126.6	130.7	137.4	147.4	150.4	153.0	169.5	4.9
Miscellaneous textile goods	229	110.4	118.5	123.7	123.1	118.7	120.1	127.0	1.7
Men's and boys' furnishings	232	108.4	111.7	123.4	134.7	162.1	174.7	187.0	7.0
Women's and misses' outerwear	233	121.8	127.4	135.5	141.6	149.9	151.9	174.5	5.9
Women's and children's undergarments	234	124.5	138.0	161.3	174.5	208.9	216.4	293.0	12.4
Hats, caps, and millinery	235	87.2	77.7	84.3	82.2	87.1	99.5	108.7	2.2
Miscellaneous apparel and accessories	238	94.0	105.5	116.8	120.1	101.4	107.7	105.8	1.7
Miscellaneous fabricated textile products	239	108.5	107.8	109.2	105.6	119.2	117.2	129.2	2.9
Sawmills and planing mills	242	101.9	103.3	110.2	115.6	116.9	118.7	125.4	2.6
Millwork, plywood, and structural members	243	97.0	94.5	92.7	92.4	89.1	91.3	90.7	-0.9
Wood containers	244	100.1	100.9	106.1	106.7	106.2	106.6	105.0	-0.6
Wood buildings and mobile homes	245	103.8	98.3	97.0	96.7	100.3	99.2	96.8	-0.7
Miscellaneous wood products	249	115.3	111.8	115.4	114.4	123.4	131.2	141.3	3.1
Household furniture	251	110.6	112.5	116.9	121.6	121.3	125.8	128.7	2.3
Office furniture	252	103.2	100.5	101.1	106.4	118.3	113.1	109.8	1.6
Public building and related furniture	253	161.0	157.4	173.3	181.5	214.9	207.6	210.9	6.5
Partitions and fixtures	254	107.4	98.9	101.2	97.5	121.1	125.6	127.0	3.2
Miscellaneous furniture and fixtures	259	103.6	104.7	110.0	113.2	110.7	121.9	122.7	1.9
Pulp mills	261	122.5	128.9	131.9	132.6	82.3	86.6	88.4	-3.0
Paper mills	262	102.4	110.2	118.6	111.6	112.0	114.9	122.7	2.0
Paperboard mills	263	108.4	114.9	119.5	118.0	126.7	127.6	131.0	3.0
Paperboard containers and boxes	265	107.9	108.4	105.1	106.3	109.7	113.5	113.5	1.3
Miscellaneous converted paper products	267	107.9	110.6	113.3	113.6	119.5	122.9	127.3	2.6
Newspapers	271	79.4	79.9	79.0	77.4	79.0	83.6	86.3	-0.5

See notes at end of table.

Table 29. **Annual indexes of output per hour for selected 3-digit SIC industries, 1993-99—Continued**

(Index, 1987=100)

Industry	SIC code[1]	1993	1994	1995	1996	1997	1998	1999	Average annual percent change 1990-99[2]
Manufacturing—Continued									
Periodicals	272	89.5	81.9	87.8	89.1	100.1	115.0	115.1	2.3
Books	273	103.5	103.0	101.6	99.3	102.6	101.0	105.4	1.0
Miscellaneous publishing	274	104.5	97.5	94.8	93.6	114.5	119.5	128.3	3.7
Commercial printing	275	106.9	106.5	107.2	108.3	108.8	109.9	115.2	1.3
Manifold business forms	276	91.1	82.0	76.9	75.2	77.9	76.7	73.6	-2.6
Greeting cards	277	91.4	89.0	92.5	90.8	92.2	104.2	103.9	0.4
Blankbooks and bookbinding	278	98.7	105.4	108.7	114.5	114.2	116.4	123.3	2.4
Printing trade services	279	115.3	111.0	116.7	126.2	123.3	126.7	120.5	2.2
Industrial inorganic chemicals	281	105.6	102.3	109.3	110.1	116.8	145.8	170.7	5.3
Plastics materials and synthetics	282	112.0	125.3	128.3	125.3	135.4	142.2	145.7	4.2
Drugs	283	99.7	104.6	108.7	112.5	112.4	104.3	104.8	0.1
Soaps, cleaners, and toilet goods	284	108.7	111.2	118.6	120.9	126.4	122.7	116.8	1.3
Paints and allied products	285	108.8	116.7	118.0	125.6	126.4	126.8	125.6	1.9
Industrial organic chemicals	286	92.2	99.9	98.6	99.0	111.2	105.7	111.3	1.0
Agricultural chemicals	287	103.8	105.0	108.5	110.0	119.8	117.5	106.9	0.2
Miscellaneous chemical products	289	107.1	105.7	107.8	110.1	120.3	120.6	128.1	3.1
Petroleum refining	291	120.1	123.8	132.3	142.0	149.2	155.7	169.5	5.0
Asphalt paving and roofing materials	295	108.0	104.9	111.2	113.1	123.1	124.7	115.7	1.9
Miscellaneous petroleum and coal products	299	104.2	96.3	87.4	87.1	96.5	98.5	90.7	-0.5
Tires and inner tubes	301	116.5	124.1	131.1	138.8	149.1	144.2	145.5	3.9
Hose and belting and gaskets and packing	305	99.7	102.7	104.6	107.4	113.5	112.7	114.0	1.9
Fabricated rubber products, n.e.c	306	123.1	119.1	121.5	121.0	125.3	132.3	140.8	2.9
Miscellaneous plastics products, n.e.c	308	116.7	120.8	121.0	124.7	129.9	133.8	141.2	3.3
Footwear, except rubber	314	105.2	113.0	117.1	126.1	121.4	110.9	131.6	3.0
Flat glass	321	97.7	97.6	99.6	101.5	107.6	114.0	127.7	4.7
Glass and glassware, pressed or blown	322	108.7	112.9	115.7	121.4	128.3	135.2	143.6	3.6
Products of purchased glass	323	106.2	105.9	106.1	122.0	125.1	122.0	134.0	4.2
Cement, hydraulic	324	119.9	125.6	124.3	128.7	133.1	134.1	139.6	2.4
Structural clay products	325	106.8	114.0	112.6	119.6	111.9	114.8	124.0	1.4
Pottery and related products	326	100.3	108.4	109.3	119.3	123.2	127.1	120.8	2.3
Concrete, gypsum, and plaster products	327	104.6	101.5	104.5	107.3	107.6	112.8	114.4	1.3
Miscellaneous nonmetallic mineral products	329	104.5	106.3	107.8	110.4	114.6	114.7	114.6	2.1
Blast furnace and basic steel products	331	133.6	142.4	142.6	147.5	155.0	151.0	148.9	3.5
Iron and steel foundries	332	112.1	113.0	112.7	116.2	120.8	121.1	126.2	1.9
Primary nonferrous metals	333	107.9	105.3	111.0	110.8	112.0	125.8	131.2	2.8
Nonferrous rolling and drawing	335	98.3	101.2	99.2	104.0	111.3	115.2	122.7	3.2
Nonferrous foundries (castings)	336	108.5	112.1	117.8	122.3	127.0	131.5	130.8	2.6
Miscellaneous primary metal products	339	111.3	134.5	152.2	149.6	136.2	140.0	150.4	3.2
Metal cans and shipping containers	341	132.3	140.9	144.2	155.2	160.3	163.8	160.3	3.5
Cutlery, handtools, and hardware	342	104.0	109.2	111.3	118.2	114.6	115.7	123.9	2.7
Plumbing and heating, except electric	343	102.0	109.1	109.2	118.6	127.3	130.3	126.9	2.4
Fabricated structural metal products	344	104.8	107.7	105.8	106.5	111.9	112.7	112.7	1.5
Metal forgings and stampings	346	108.7	108.5	109.3	113.6	120.2	125.9	130.3	3.5
Metal services, n.e.c	347	120.6	123.0	127.7	128.4	124.4	127.3	127.9	2.3
Ordnance and accessories, n.e.c	348	84.6	83.6	87.6	87.5	93.7	96.6	92.2	1.3

See notes at end of table.

Table 29. **Annual indexes of output per hour for selected 3-digit SIC industries, 1993-99—Continued**

(Index, 1987=100)

Industry	SIC code[1]	1993	1994	1995	1996	1997	1998	1999	Average annual percent change 1990-99[2]
Manufacturing—Continued									
Miscellaneous fabricated metal products	349	102.0	103.2	106.6	108.3	107.7	111.5	110.3	1.4
Engines and turbines	351	109.2	122.3	122.7	136.6	136.9	145.9	151.2	4.0
Farm and garden machinery	352	118.6	125.0	134.7	137.2	141.2	148.5	125.5	0.8
Construction and related machinery	353	108.2	117.7	122.1	123.3	132.5	137.5	137.2	2.8
Metalworking machinery	354	107.4	109.9	114.8	114.9	119.2	119.8	123.5	2.3
Special industry machinery	355	113.6	121.2	132.3	134.0	131.7	125.1	139.3	2.9
General industrial machinery	356	104.8	106.7	109.0	109.4	110.0	111.2	111.4	1.0
Computer and office equipment	357	258.6	328.6	469.4	681.3	960.2	1350.6	1840.2	33.3
Refrigeration and service machinery	358	108.6	110.7	112.7	114.7	115.0	121.4	123.2	1.9
Industrial machinery, n.e.c	359	118.5	127.4	138.8	141.4	129.3	127.5	134.3	2.5
Electric distribution equipment	361	122.2	131.8	143.0	143.9	142.8	147.5	146.6	3.6
Electrical industrial apparatus	362	132.9	134.9	150.8	154.3	164.2	162.3	162.9	4.7
Household appliances	363	123.4	131.4	127.3	127.4	142.9	150.3	150.2	4.0
Electric lighting and wiring equipment	364	107.8	113.4	113.7	116.9	121.8	129.2	132.4	3.2
Communications equipment	366	163.0	186.4	200.6	229.5	275.3	276.0	327.1	11.4
Electronic components and accessories	367	217.9	274.1	401.5	514.9	613.4	768.0	1070.0	26.0
Miscellaneous electrical equipment & supplies	369	108.2	110.5	114.1	123.1	128.3	135.3	140.7	5.0
Motor vehicles and equipment	371	106.2	108.8	106.7	107.2	116.3	125.2	136.5	3.2
Aircraft and parts	372	115.2	109.6	107.9	113.0	114.7	140.1	139.6	3.9
Ship and boat building and repairing	373	106.2	103.8	98.0	99.2	105.3	102.0	112.6	0.9
Railroad equipment	374	151.0	152.5	150.0	148.3	184.2	189.1	205.1	4.2
Motorcycles, bicycles, and parts	375	130.9	125.1	120.3	125.5	120.4	127.7	121.4	2.9
Guided missiles, space vehicles, parts	376	122.1	118.9	121.0	129.4	136.5	142.4	158.2	3.5
Search and navigation equipment	381	129.1	132.1	149.5	142.2	149.5	149.1	139.7	2.4
Measuring and controlling devices	382	124.0	133.8	146.4	150.5	142.4	143.5	152.9	4.1
Medical instruments and supplies	384	127.3	126.7	131.5	139.8	147.4	158.6	160.2	3.6
Ophthalmic goods	385	157.8	160.6	167.2	188.2	196.3	199.1	229.5	7.4
Photographic equipment & supplies	386	126.9	132.7	129.5	128.7	121.5	124.8	147.2	3.5
Jewelry, silverware, and plated ware	391	96.7	99.5	100.2	102.6	114.2	113.1	133.9	3.4
Musical instruments	393	95.6	88.7	86.9	78.8	82.9	81.4	86.4	-1.3
Toys and sporting goods	394	114.2	109.7	113.6	119.9	125.7	131.6	124.0	1.5
Pens, pencils, office, and art supplies	395	111.6	129.9	135.2	144.1	127.5	132.5	129.3	1.0
Costume jewelry and notions	396	115.8	129.0	143.7	142.2	118.0	131.2	150.2	4.0
Miscellaneous manufactures	399	107.7	106.1	108.1	112.8	109.4	108.5	111.2	0.5
Transportation									
Railroad transportation	4011	145.4	150.3	156.2	167.0	169.8	173.3	182.3	4.9
Trucking, except local[3]	4213	126.6	129.5	125.4	130.9	132.4	129.9	131.6	1.9
U.S. postal service[4]	431	107.1	106.6	106.5	104.7	108.3	109.7	110.3	0.7
Air transportation[3]	4512,13,22 (pts.)	100.2	105.7	108.6	111.1	111.6	110.7	108.3	1.7

See notes at end of table.

Table 29. **Annual indexes of output per hour for selected 3-digit SIC industries, 1993-99—Continued**

(Index, 1987=100)

Industry	SIC code[1]	1993	1994	1995	1996	1997	1998	1999	Average annual percent change 1990-99[2]
Utilities									
Telephone communications	481	135.5	142.2	148.1	159.5	160.9	170.3	189.1	5.9
Radio and television broadcasting	483	106.7	110.1	109.6	105.8	101.1	100.7	101.8	-0.3
Cable and other pay TV services	484	85.3	83.4	84.5	81.9	84.7	83.5	81.5	-1.4
Electric utilities	491,3 (pt.)	120.6	126.8	135.0	146.5	150.5	160.1	162.7	4.4
Gas utilities	492,3 (pt.)	121.8	125.6	137.1	145.9	158.6	144.4	145.0	3.6
Trade									
Lumber and other building materials dealers	521	111.4	118.9	117.8	121.6	121.8	134.2	142.3	3.5
Paint, glass, and wallpaper stores	523	114.2	127.8	130.9	133.5	134.8	163.5	163.2	4.8
Hardware stores	525	113.9	121.2	115.5	119.5	119.0	137.8	149.3	2.9
Retail nurseries, lawn and garden supply stores	526	107.1	117.0	117.4	136.4	127.5	133.7	151.2	6.7
Department stores	531	110.4	113.4	115.9	123.5	128.8	135.5	147.4	4.8
Variety stores	533	191.5	197.4	211.3	238.4	257.7	268.7	319.5	8.4
Miscellaneous general merchandise stores	539	164.2	164.8	167.3	167.6	170.3	185.7	195.2	5.7
Grocery stores	541	96.0	95.4	93.9	92.1	91.7	92.2	95.4	-0.1
Meat and fish (seafood) markets	542	97.7	95.7	94.4	86.4	90.8	95.7	99.3	0.0
Retail bakeries	546	86.5	85.3	83.0	75.9	67.6	68.1	83.8	-0.9
New and used car dealers	551	108.6	109.7	108.1	109.1	108.8	108.7	111.9	0.5
Auto and home supply stores	553	100.8	105.3	109.1	108.2	108.1	113.0	116.0	1.3
Gasoline service stations	554	115.9	121.1	127.2	126.1	126.1	133.9	140.6	3.5
Men's and boy's wear stores	561	119.5	121.8	121.4	129.8	136.3	145.2	154.6	3.3
Women's clothing stores	562	130.0	130.4	139.9	154.2	157.3	176.1	190.5	6.7
Family clothing stores	565	121.5	127.7	141.8	146.9	150.2	153.1	156.5	4.2
Shoe stores	566	117.3	130.7	139.2	151.9	148.4	145.0	151.1	3.8
Furniture and homefurnishings stores	571	113.3	114.7	117.4	123.6	124.2	127.2	134.1	2.8
Household appliance stores	572	118.0	121.5	138.4	140.7	153.5	181.4	183.9	6.5
Radio, television, computer, and music stores	573	154.5	179.1	199.3	208.1	218.4	260.3	314.6	11.2
Eating and drinking places	581	103.8	102.1	102.0	100.6	101.6	102.0	104.3	0.0
Drug and proprietary stores	591	109.5	109.9	111.1	113.9	119.7	125.6	129.8	2.2
Liquor stores	592	101.8	100.1	104.7	113.8	109.9	116.5	114.6	0.9
Used merchandise stores	593	116.8	119.5	120.6	132.7	140.3	163.6	181.9	6.5
Miscellaneous shopping goods stores	594	111.5	117.1	123.1	125.3	129.1	138.8	145.2	3.4
Nonstore retailers	596	132.2	149.0	152.4	173.3	186.5	208.0	222.2	8.0
Fuel dealers	598	91.8	99.0	111.4	112.4	109.0	105.8	115.1	3.5
Retail stores, n.e.c	599	118.1	125.8	127.0	140.2	147.8	157.3	161.0	3.9
Finance and Services									
Commercial banks	602	118.5	121.7	126.4	129.7	133.0	132.6	135.2	2.6
Hotels and motels	701	106.5	109.9	110.5	110.0	108.2	111.6	113.5	1.8
Laundry, cleaning, and garment services	721	99.9	105.0	106.6	109.8	109.0	116.2	121.8	2.0
Photographic studios, portrait	722	101.8	108.3	116.2	110.7	114.1	121.6	105.1	0.8
Beauty shops	723	97.0	101.1	104.8	107.6	108.5	110.5	113.3	1.7
Barber shops	724	121.9	118.8	115.7	128.8	150.4	157.4	139.0	3.6
Funeral services and crematories	726	98.7	104.3	100.2	97.6	101.9	104.2	99.7	1.0
Automotive repair shops	753	105.7	114.3	121.6	116.1	117.2	124.9	127.6	1.9
Motion picture theaters	783	113.8	110.4	105.0	104.1	103.4	106.1	110.5	-0.7

[1] 1987 Standard Industrial Classification.

[2] Average annual percent change based on compound rate formula.

[3] Refers to output per employee.

[4] Refers to ouput per full-time equivalent employee year on fiscal basis.

n.e.c. = not elsewhere classified

Table 30. Average weekly earnings of production workers on private nonfarm payrolls by major industry division, annual averages, 1947-2000

(In current dollars)

Year	Total private	Mining	Construction	Manufacturing	Transportation and public utilities	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services
1947	$45.58	$59.89	$58.83	$49.13	–	$50.06	$33.77	$43.21	–
1948	49.00	65.52	65.23	53.08	–	53.59	36.22	45.48	–
1949	50.24	62.33	67.56	53.60	–	55.45	38.42	47.63	–
1950	53.13	67.16	69.68	58.28	–	55.31	39.71	47.50	–
1951	57.86	74.11	76.96	63.34	–	62.02	42.82	54.67	–
1952	60.65	77.59	82.86	66.75	–	65.53	43.38	57.08	–
1953	63.76	83.03	86.41	70.47	–	68.61	45.36	59.57	–
1954	64.52	82.60	88.54	70.49	–	71.28	47.04	62.04	–
1955	67.72	89.54	90.90	75.30	–	74.48	48.75	63.92	–
1956	70.74	95.06	96.38	78.78	–	78.17	50.18	65.68	–
1957	73.33	98.25	100.27	81.19	–	81.41	52.20	67.53	–
1958	75.08	96.08	103.78	82.32	–	84.02	54.10	70.12	–
1959	78.78	103.68	108.41	88.26	–	88.51	56.15	72.74	–
1960	80.67	105.04	112.67	89.72	–	90.72	57.76	75.14	–
1961	82.60	106.92	118.08	92.34	–	93.56	58.66	77.12	–
1962	85.91	110.70	122.47	96.56	–	96.22	60.96	80.94	–
1963	88.46	114.40	127.19	99.23	–	99.47	62.66	84.38	–
1964	91.33	117.74	132.06	102.97	$118.78	102.56	64.75	85.79	$70.03
1965	95.45	123.52	138.38	107.53	125.14	106.08	66.61	88.91	73.60
1966	98.82	130.24	146.26	112.19	128.13	111.11	68.57	92.13	77.04
1967	101.84	135.89	154.95	114.49	130.82	115.66	70.95	95.72	80.38
1968	107.73	142.71	164.49	122.51	138.85	121.90	74.95	101.75	83.97
1969	114.61	154.80	181.54	129.51	147.74	129.85	78.66	108.70	90.57
1970	119.83	164.40	195.45	133.33	155.93	136.86	82.47	112.67	96.66
1971	127.31	172.14	211.67	142.44	168.82	143.42	87.62	117.85	103.06
1972	136.90	189.14	221.19	154.71	187.86	151.69	91.85	122.98	110.85
1973	145.39	201.40	235.89	166.46	203.31	159.54	96.32	129.20	117.29
1974	154.76	219.14	249.25	176.80	217.48	169.94	102.68	137.61	126.00
1975	163.53	249.31	266.08	190.79	233.44	182.19	108.86	148.19	134.67
1976	175.45	273.90	283.73	209.32	256.71	194.27	114.60	155.43	143.52
1977	189.00	301.20	295.65	228.90	278.90	209.13	121.66	165.26	153.45
1978	203.70	332.88	318.69	249.27	302.80	228.14	130.20	178.00	163.67
1979	219.91	365.07	342.99	269.34	325.58	247.93	138.62	190.77	175.27
1980	235.10	397.06	367.78	288.62	351.25	266.88	147.38	209.60	190.71
1981	255.20	438.75	399.26	318.00	382.18	290.68	158.03	229.05	208.97
1982	267.26	459.88	426.82	330.26	402.48	309.46	163.85	245.44	225.59
1983	280.70	479.40	442.97	354.08	420.81	328.79	171.05	263.90	239.04
1984	292.86	503.58	458.51	374.03	438.13	341.88	174.33	278.50	247.43
1985	299.09	519.93	464.46	386.37	450.30	351.36	174.64	289.02	256.75
1986	304.85	525.81	466.75	396.01	458.64	357.72	176.08	304.30	265.85
1987	312.50	531.70	480.44	406.31	471.58	365.38	178.70	316.90	275.93
1988	322.02	541.44	495.73	418.81	467.57	380.24	183.62	325.25	289.49
1989	334.24	570.18	513.17	429.68	481.43	394.82	188.72	341.17	305.79
1990	345.35	603.29	526.01	441.86	496.13	411.10	194.40	356.93	319.48
1991	353.98	630.04	533.40	455.03	502.92	424.82	198.48	370.92	331.45
1992	363.61	638.31	537.70	469.86	514.37	435.10	205.06	387.36	342.55
1993	373.64	646.78	553.63	486.04	532.52	448.47	209.95	406.33	350.35
1994	385.86	666.62	573.00	506.94	547.07	463.10	216.46	423.51	358.80
1995	394.34	683.91	587.00	514.59	556.72	476.07	221.47	442.29	369.04
1996	406.61	707.59	603.33	531.23	572.22	492.92	230.11	459.52	382.00
1997	424.89	733.21	625.56	553.14	592.32	516.48	240.74	481.57	400.33
1998	442.19	742.35	646.13	562.53	604.75	538.88	253.46	512.15	418.58
1999	456.78	736.56	672.13	579.63	607.20	558.80	263.61	529.24	435.86
2000	474.38	743.04	702.68	598.21	626.09	585.20	273.39	547.04	454.86

Dash indicates data not available.

NOTE: Current estimates are projected from March 2000 benchmark levels.

Table 31. **Median weekly earnings of full-time wage and salary workers by age, sex, race, and Hispanic origin, annual averages, 1983-2000**

(In current dollars)

Characteristic	1983	1984	1985	1986[1]	1987	1988	1989	1990[1]	1991
Total, 16 years and over	$313	$326	$343	$358	$373	$385	$399	$412	$426
16 to 24 years	210	217	223	231	242	249	259	269	277
16 to 19 years	163	168	173	178	185	195	204	209	213
20 to 24 years	222	230	240	248	258	265	276	285	291
25 years and over	343	361	378	391	403	414	427	449	467
25 to 54 years	344	362	379	391	403	414	429	450	468
25 to 34 years	321	335	349	360	373	383	394	407	415
35 to 44 years	369	389	405	418	435	449	472	486	498
45 to 54 years	366	385	400	415	429	452	472	489	507
55 years and over	337	356	374	389	398	411	420	440	457
55 to 64 years	346	365	380	396	405	419	431	457	469
65 years and over	260	271	296	298	310	323	334	343	381
Men	378	391	406	419	433	449	468	481	493
Women	252	265	277	290	303	315	328	348	366
White, both sexes	319	336	355	370	383	394	409	424	442
Men	387	400	417	433	450	465	482	494	506
Women	254	268	281	294	307	318	334	353	373
Black, both sexes	261	269	277	291	301	314	319	329	348
Men	293	302	304	318	326	347	348	361	375
Women	231	241	252	263	275	288	301	308	323
Hispanic origin, both sexes	(2)	(2)	(2)	277	284	290	298	304	312
Men	(2)	(2)	(2)	299	306	307	315	318	323
Women	(2)	(2)	(2)	241	251	260	269	278	292

Characteristic	1992	1993	1994[1]	1995	1996	1997[1]	1998[1]	1999[1]	2000[1]
Total, 16 years and over	$440	$459	$467	$479	$490	$503	$523	$549	$576
16 to 24 years	276	282	286	292	298	306	319	341	361
16 to 19 years	212	214	221	231	240	252	268	281	294
20 to 24 years	290	297	300	306	312	321	339	363	383
25 years and over	479	491	500	510	520	540	572	592	611
25 to 54 years	479	492	501	511	521	541	571	592	612
25 to 34 years	422	436	439	451	463	481	502	518	550
35 to 44 years	503	517	537	550	559	579	597	611	631
45 to 54 years	522	542	566	582	594	607	620	652	671
55 years and over	472	483	490	502	518	534	579	589	603
55 to 64 years	483	492	501	514	535	558	592	604	617
65 years and over	378	393	384	389	384	393	405	404	442
Men	501	510	522	538	557	579	598	618	646
Women	380	393	399	406	418	431	456	473	491
White, both sexes	458	475	484	494	506	519	545	573	591
Men	514	524	547	566	580	595	615	638	669
Women	387	401	408	415	428	444	468	483	500
Black, both sexes	357	369	371	383	387	400	426	445	468
Men	380	392	400	411	412	432	468	488	503
Women	335	348	346	355	362	375	400	409	429
Hispanic origin, both sexes	322	331	324	329	339	351	370	385	396
Men	339	346	343	350	356	371	390	406	414
Women	302	313	305	305	316	318	337	348	364

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

[2] Data not available.

Table 32. **Median weekly earnings of full-time wage and salary workers 25 years and older by sex and educational attainment, annual averages, selected years, 1995-2000**

(In current dollars)

Characteristic	1995	1996	1997[1]	1998[1]	1999[1]	2000[1]
TOTAL						
Total, 25 years and over	$510	$520	$540	$572	$592	$611
Less than a high school diploma	309	317	321	337	348	360
High school graduates, no college	432	443	461	479	490	506
Some college or associate degree	508	518	535	558	580	598
College graduates, total	747	758	779	821	860	896
Men						
Total, 25 years and over	588	599	615	639	668	700
Less than a high school diploma	347	357	365	383	395	409
High school graduates, no college	507	516	535	559	580	594
Some college or associate degree	596	604	621	643	665	699
College graduates, total	845	874	898	939	977	1,022
Women						
Total, 25 years and over	428	444	462	485	497	515
Less than a high school diploma	262	268	275	283	290	303
High school graduates, no college	358	365	378	396	405	421
Some college or associate degree	427	442	459	476	488	504
College graduates, total	644	657	672	707	740	780

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of Employment and Earnings, a monthly periodical published by the Bureau of Labor Statistics.

Table 33. **Producer price indexes for major commodity groups, 1947-2000**

(1982=100)

Year	Farm products, processed foods and feeds	Farm products	Processed foods and feeds	Industrial commodities	Textile products and apparel	Hides, skins, leather, and products	Fuels and related products and power[1]	Chemicals and allied products[1]	Rubber and plastic products
1947	37.9	45.1	33.0	22.7	50.6	31.7	11.1	32.1	29.2
1948	40.8	48.5	35.3	24.6	52.8	32.1	13.1	32.8	30.2
1949	38.0	41.9	32.1	24.1	48.3	30.4	12.4	30.0	29.2
1950	37.7	44.0	33.2	25.0	50.2	32.9	12.6	30.4	35.6
1951	43.0	51.2	36.9	27.6	56.0	37.7	13.0	34.8	43.7
1952	41.3	48.4	36.4	26.9	50.5	30.5	13.0	33.0	39.6
1953	38.6	43.8	34.8	27.2	49.3	31.0	13.4	33.4	36.9
1954	38.5	43.2	35.4	27.2	48.2	29.5	13.2	33.8	37.5
1955	38.6	40.5	33.8	27.8	48.2	29.4	13.2	33.7	42.4
1956	38.4	40.0	33.8	29.1	48.2	31.2	13.6	33.9	43.0
1957	37.7	41.1	34.8	29.9	48.3	31.2	14.3	34.6	42.8
1958	39.4	42.9	36.5	30.0	47.4	31.6	13.7	34.9	42.8
1959	37.8	40.2	35.6	30.5	48.1	35.9	13.7	34.8	42.6
1960	37.7	40.1	35.6	30.5	48.6	34.6	13.9	34.8	42.7
1961	37.7	39.7	36.2	30.4	47.8	34.9	14.0	34.5	41.1
1962	38.1	40.4	36.5	30.4	48.2	35.3	14.0	33.9	39.9
1963	37.7	39.6	36.8	30.3	48.2	34.3	13.9	33.5	40.1
1964	37.5	39.0	36.7	30.5	48.5	34.4	13.5	33.6	39.6
1965	39.0	40.7	38.0	30.9	48.8	35.9	13.8	33.9	39.7
1966	41.6	43.7	40.2	31.5	48.9	39.4	14.1	34.0	40.5
1967	40.2	41.3	39.8	32.0	48.9	38.1	14.4	34.2	41.4
1968	41.1	42.3	40.6	32.8	50.7	39.3	14.3	34.1	42.8
1969	43.4	45.0	42.7	33.9	51.8	41.5	14.6	34.2	43.6
1970	44.9	45.8	44.6	35.2	52.4	42.0	15.3	35.0	44.9
1971	45.8	46.6	45.5	36.5	53.3	43.4	16.6	35.6	45.2
1972	49.2	51.6	48.0	37.8	55.5	50.0	17.1	35.6	45.3
1973	63.9	72.7	58.9	40.3	60.5	54.5	19.4	37.6	46.6
1974	71.3	77.4	68.0	49.2	68.0	55.2	30.1	50.2	56.4
1975	74.0	77.0	72.6	54.9	67.4	56.5	35.4	62.0	62.2
1976	73.6	78.8	70.8	58.4	72.4	63.9	38.3	64.0	66.0
1977	75.9	79.4	74.0	62.5	75.3	68.3	43.6	65.9	69.4
1978	83.0	87.7	80.6	67.0	78.1	76.1	46.5	68.0	72.4
1979	92.3	99.6	88.5	75.7	82.5	96.1	58.9	76.0	80.5
1980	98.3	102.9	95.9	88.0	89.7	94.7	82.8	89.0	90.1
1981	101.1	105.2	98.9	97.4	97.6	99.3	100.2	98.4	96.4
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	102.0	102.4	101.8	101.1	100.3	103.2	95.9	100.3	100.8
1984	105.5	105.5	105.4	103.3	102.7	109.0	94.8	102.9	102.3
1985	100.7	95.1	103.5	103.7	102.9	108.9	91.4	103.7	101.9
1986	101.2	92.9	105.4	100.0	103.2	113.0	69.8	102.6	101.9
1987	103.7	95.5	107.9	102.6	105.1	120.4	70.2	106.4	103.0
1988	110.0	104.9	112.7	106.3	109.2	131.4	66.7	116.3	109.3
1989	115.4	110.9	117.8	111.6	112.3	136.3	72.9	123.0	112.6
1990	118.6	112.2	121.9	115.8	115.0	141.7	82.3	123.6	113.6
1991	116.4	105.7	121.9	116.5	116.3	138.9	81.2	125.6	115.1
1992	115.9	103.6	122.1	117.4	117.8	140.4	80.4	125.9	115.1
1993	118.4	107.1	124.0	119.0	118.0	143.7	80.0	128.2	115.0
1994	119.1	106.3	125.5	120.7	118.3	148.5	77.8	132.1	117.6
1995	120.5	107.4	127.0	125.5	120.8	153.7	78.0	142.5	124.3
1996	129.7	122.4	133.3	127.3	122.4	150.5	85.8	142.1	123.8
1997	127.0	112.9	134.0	127.7	122.6	154.2	86.1	143.6	123.2
1998	122.7	104.6	131.6	124.8	122.9	148.0	75.3	143.9	122.6
1999	120.3	98.4	131.1	126.5	121.1	146.0	80.5	144.2	122.5
2000	122.0	99.5	133.1	134.8	121.4	151.5	103.5	151.0	125.5

See footnote at end of table.

Table 33. **Producer price indexes for major commodity groups, 1947-2000—Continued**

(1982=100)

Year	Lumber and wood products	Pulp, paper, and allied products	Metals and metal products	Machinery and equipment	Furniture and household durables	Nonmetallic mineral products	Transportation equipment	Motor vehicles and equipment	Miscellaneous products
1947	25.8	25.1	18.2	19.3	37.2	20.7	–	25.5	26.6
1948	29.5	26.2	20.7	20.9	39.4	22.4	–	28.2	27.7
1949	27.3	25.1	20.9	21.9	40.1	23.0	–	30.1	28.2
1950	31.4	25.7	22.0	22.6	40.9	23.5	–	30.0	28.6
1951	34.1	30.5	24.5	25.3	44.4	25.0	–	31.6	30.3
1952	33.2	29.7	24.5	25.3	43.5	25.0	–	33.4	30.2
1953	33.1	29.6	25.3	25.9	44.4	26.0	–	33.3	31.0
1954	32.5	29.6	25.5	26.3	44.9	26.6	–	33.4	31.3
1955	34.1	30.4	27.2	27.2	45.1	27.3	–	34.3	31.3
1956	34.6	32.4	29.6	29.3	46.3	28.5	–	36.3	31.7
1957	32.8	33.0	30.2	31.4	47.5	29.6	–	37.9	32.6
1958	32.5	33.4	30.0	32.1	47.9	29.9	–	39.0	33.3
1959	34.7	33.7	30.6	32.8	48.0	30.3	–	39.9	33.4
1960	33.5	34.0	30.8	33.0	47.8	30.4	–	39.3	33.6
1961	32.0	33.0	30.5	33.0	47.5	30.5	–	39.2	33.7
1962	32.2	33.4	30.2	33.0	47.2	30.5	–	39.2	33.9
1963	32.8	33.1	30.3	33.1	46.9	30.3	–	38.9	34.2
1964	33.5	33.0	31.1	33.3	47.1	30.4	–	39.1	34.4
1965	33.7	33.3	32.0	33.7	46.8	30.4	–	39.2	34.7
1966	35.2	34.2	32.8	34.7	47.4	30.7	–	39.2	35.3
1967	35.1	34.6	33.2	35.9	48.3	31.2	–	39.8	36.2
1968	39.8	35.0	34.0	37.0	49.7	32.4	–	40.9	37.0
1969	44.0	36.0	36.0	38.2	50.7	33.6	40.4	41.7	38.1
1970	39.9	37.5	38.7	40.0	51.9	35.3	41.9	43.3	39.8
1971	44.7	38.1	39.4	41.4	53.1	38.2	44.2	45.7	40.8
1972	50.7	39.3	40.9	42.3	53.8	39.4	45.5	47.0	41.5
1973	62.2	42.3	44.0	43.7	55.7	40.7	46.1	47.4	43.3
1974	64.5	52.5	57.0	50.0	61.8	47.8	50.3	51.4	48.1
1975	62.1	59.0	61.5	57.9	67.5	54.4	56.7	57.6	53.4
1976	72.2	62.1	65.0	61.3	70.3	58.2	60.5	61.2	55.6
1977	83.0	64.6	69.3	65.2	73.2	62.6	64.6	65.2	59.4
1978	96.9	67.7	75.3	70.3	77.5	69.6	69.5	70.0	66.7
1979	105.5	75.9	86.0	76.7	82.8	77.6	75.3	75.8	75.5
1980	101.5	86.3	95.0	86.0	90.7	88.4	82.9	83.1	93.6
1981	102.8	94.8	99.6	94.4	95.9	96.7	94.3	94.6	96.1
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	107.9	103.3	101.8	102.7	103.4	101.6	102.8	102.2	104.8
1984	108.0	110.3	104.8	105.1	105.7	105.4	105.2	104.1	107.0
1985	106.6	113.3	104.4	107.2	107.1	108.6	107.9	106.4	109.4
1986	107.2	116.1	103.2	108.8	108.2	110.0	110.5	109.1	111.6
1987	112.8	121.8	107.1	110.4	109.9	110.0	112.5	111.7	114.9
1988	118.9	130.4	118.7	113.2	113.1	111.2	114.3	113.1	120.2
1989	126.7	137.8	124.1	117.4	116.9	112.6	117.7	116.2	126.5
1990	129.7	141.2	122.9	120.7	119.2	114.7	121.5	118.2	134.2
1991	132.1	142.9	120.2	123.0	121.2	117.2	126.4	122.1	140.8
1992	146.6	145.2	119.2	123.4	122.2	117.3	130.4	124.9	145.3
1993	174.0	147.3	119.2	124.0	123.7	120.0	133.7	128.0	145.4
1994	180.0	152.5	124.8	125.1	126.1	124.2	137.2	131.4	141.9
1995	178.1	172.2	134.5	126.6	128.2	129.0	139.7	133.0	145.4
1996	176.1	168.7	131.0	126.5	130.4	131.0	141.7	134.1	147.7
1997	183.8	167.9	131.8	125.9	130.8	133.2	141.6	132.7	150.9
1998	179.1	171.7	127.8	124.9	131.3	135.4	141.2	131.4	156.0
1999	183.6	174.1	124.6	124.3	131.7	138.9	141.8	131.7	166.6
2000	178.2	183.7	128.1	124.0	132.6	142.5	143.8	132.3	170.8

[1] Prices for some items in this grouping are lagged and refer to 1 month earlier than the index month.

Table 34. **Producer price indexes by stage of processing, special groups, 1947-2000**

(1982=100)

Year	Total finished goods	Finished foods	Finished energy	Finished goods excluding foods and energy	Capital equipment	Consumer goods excluding foods and energy	Total intermediate	Intermediate foods and feeds[1]	Intermediate energy	Intermediate other	Total crude	Crude foods and feeds	Crude energy	Crude other
1947	26.4	31.9	–	–	19.8	–	23.3	–	–	–	31.7	45.1	–	–
1948	28.5	34.9	–	–	21.6	–	25.2	–	–	–	34.7	48.8	–	–
1949	27.7	32.1	–	–	22.7	–	24.2	–	–	–	30.1	40.5	–	–
1950	28.2	32.7	–	–	23.2	–	25.3	–	–	–	32.7	43.4	–	–
1951	30.8	36.7	–	–	25.5	–	28.4	–	–	–	37.6	50.2	–	–
1952	30.6	36.4	–	–	25.9	–	27.5	–	–	–	34.5	47.3	–	–
1953	30.3	34.5	–	–	26.3	–	27.7	–	–	–	31.9	42.3	–	–
1954	30.4	34.2	–	–	26.7	–	27.9	–	–	–	31.6	42.3	–	–
1955	30.5	33.4	–	–	27.4	–	28.4	–	–	–	30.4	38.4	–	–
1956	31.3	33.3	–	–	29.5	–	29.6	–	–	–	30.6	37.6	–	–
1957	32.5	34.4	–	–	31.3	–	30.3	–	–	–	31.2	39.2	–	–
1958	33.2	36.5	–	–	32.1	–	30.4	–	–	–	31.9	41.6	–	–
1959	33.1	34.8	–	–	32.7	–	30.8	–	–	–	31.1	38.8	–	–
1960	33.4	35.5	–	–	32.8	–	30.8	–	–	–	30.4	38.4	–	–
1961	33.4	35.4	–	–	32.9	–	30.6	–	–	–	30.2	37.9	–	–
1962	33.5	35.7	–	–	33.0	–	30.6	–	–	–	30.5	38.6	–	–
1963	33.4	35.3	–	–	33.1	–	30.7	–	–	–	29.9	37.5	–	–
1964	33.5	35.4	–	–	33.4	–	30.8	–	–	–	29.6	36.6	–	–
1965	34.1	36.8	–	–	33.8	–	31.2	–	–	–	31.1	39.2	–	–
1966	35.2	39.2	–	–	34.6	–	32.0	–	–	–	33.1	42.7	–	–
1967	35.6	38.5	–	–	35.8	–	32.2	41.8	–	–	31.3	40.3	–	–
1968	36.6	40.0	–	–	37.0	–	33.0	41.5	–	–	31.8	40.9	–	–
1969	38.0	42.4	–	–	38.3	–	34.1	42.9	–	–	33.9	44.1	–	–
1970	39.3	43.8	–	–	40.1	–	35.4	45.6	–	–	35.2	45.2	–	–
1971	40.5	44.5	–	–	41.7	–	36.8	46.7	–	–	36.0	46.1	–	–
1972	41.8	46.9	–	–	42.8	–	38.2	49.5	–	–	39.9	51.5	–	–
1973	45.6	56.5	–	48.1	44.2	50.4	42.4	70.3	–	44.3	54.5	72.6	–	70.8
1974	52.6	64.4	26.2	53.6	50.5	55.5	52.5	83.6	33.1	54.0	61.4	76.4	27.8	83.3
1975	58.2	69.8	30.7	59.7	58.2	60.6	58.0	81.6	38.7	60.2	61.6	77.4	33.3	69.3
1976	60.8	69.6	34.3	63.1	62.1	63.7	60.9	77.4	41.5	63.6	63.4	76.8	35.3	80.2
1977	64.7	73.3	39.7	66.9	66.1	67.3	64.9	79.6	46.8	67.6	65.5	77.5	40.4	79.8
1978	69.8	79.9	42.3	71.9	71.3	72.2	69.5	84.8	49.1	72.5	73.4	87.3	45.2	87.8
1979	77.6	87.3	57.1	78.3	77.5	78.8	78.4	94.5	61.1	80.7	85.9	100.0	54.9	106.2
1980	88.0	92.4	85.2	87.1	85.8	87.8	90.3	105.5	84.9	90.3	95.3	104.6	73.1	113.1
1981	96.1	97.8	101.5	94.8	94.6	94.6	98.6	104.6	100.5	97.7	103.0	103.9	97.7	111.7
1982	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1983	101.6	101.0	95.2	103.0	102.8	103.1	100.6	103.6	95.3	101.6	101.3	101.8	98.7	105.3
1984	103.7	105.4	91.2	105.5	105.2	105.7	103.1	105.7	95.5	104.7	103.5	104.7	98.0	111.7
1985	104.7	104.6	87.6	108.1	107.5	108.4	102.7	97.3	92.6	105.2	95.8	94.8	93.3	104.9
1986	103.2	107.3	63.0	110.6	109.7	111.1	99.1	96.2	72.6	104.9	87.7	93.2	71.8	103.1
1987	105.4	109.5	61.8	113.3	111.7	114.2	101.5	99.2	73.0	107.8	93.7	96.2	75.0	115.7
1988	108.0	112.6	59.8	117.0	114.3	118.5	107.1	109.5	70.9	115.2	96.0	106.1	67.7	133.0
1989	113.6	118.7	65.7	122.1	118.8	124.0	112.0	113.8	76.1	120.2	103.1	111.2	75.9	137.9
1990	119.2	124.4	75.0	126.6	122.9	128.8	114.5	113.3	85.5	120.9	108.9	113.1	85.9	136.3
1991	121.7	124.1	78.1	131.1	126.7	133.7	114.4	111.1	85.1	121.4	101.2	105.5	80.4	128.2
1992	123.2	123.3	77.8	134.2	129.1	137.3	114.7	110.7	84.3	122.0	100.4	105.1	78.8	128.4
1993	124.7	125.7	78.0	135.8	131.4	138.5	116.2	112.7	84.6	123.8	102.4	108.4	76.7	140.2
1994	125.5	126.8	77.0	137.1	134.1	139.0	118.5	114.8	83.0	127.1	101.8	106.5	72.1	156.2
1995	127.9	129.0	78.1	140.0	136.7	141.9	124.9	114.8	84.1	135.2	102.7	105.8	69.4	173.6
1996	131.3	133.6	83.2	142.0	138.3	144.3	125.7	128.1	89.8	134.0	113.8	121.5	85.0	155.8
1997	131.8	134.5	83.4	142.4	138.2	145.1	125.6	125.4	89.0	134.2	111.1	112.2	87.3	156.5
1998	130.7	134.3	75.1	143.7	137.6	147.7	123.0	116.2	80.8	133.5	96.8	103.9	68.6	142.1
1999	133.0	135.1	78.8	146.1	137.6	151.7	123.2	111.1	84.3	133.1	98.2	98.7	78.5	135.2
2000	138.0	137.2	94.1	148.0	138.8	154.0	129.2	111.7	101.7	136.6	120.6	100.2	122.1	145.2

[1] Intermediate materials for food manufacturing and feeds.

Dash indicates data not available.

Table 35. **Consumer Price Index for All Urban Consumers (CPI-U), 1960-2000**

Year	Annual average				December			
	All items	Food	Energy	All items less food and energy	All items	Food	Energy	All items less food and energy
1960	29.6	30.0	22.4	30.6	29.8	30.4	22.7	30.8
1961	29.9	30.4	22.5	31.0	30.0	30.2	22.4	31.2
1962	30.2	30.6	22.6	31.4	30.4	30.6	22.9	31.6
1963	30.6	31.1	22.6	31.8	30.9	31.2	22.7	32.1
1964	31.0	31.5	22.5	32.3	31.2	31.6	22.7	32.5
1965	31.5	32.2	22.9	32.7	31.8	32.7	23.1	33.0
1966	32.4	33.8	23.3	33.5	32.9	34.0	23.5	34.1
1967	33.4	34.1	23.8	34.7	33.9	34.4	23.9	35.4
1968	34.8	35.3	24.2	36.3	35.5	35.9	24.3	37.2
1969	36.7	37.1	24.8	38.4	37.7	38.4	25.0	39.5
1970	38.8	39.2	25.5	40.8	39.8	39.3	26.2	42.1
1971	40.5	40.4	26.5	42.7	41.1	41.0	27.0	43.4
1972	41.8	42.1	27.2	44.0	42.5	42.9	27.7	44.7
1973	44.4	48.2	29.4	45.6	46.2	51.6	32.4	46.8
1974	49.3	55.1	38.1	49.4	51.9	57.8	39.4	52.0
1975	53.8	59.8	42.1	53.9	55.5	61.6	43.9	55.5
1976	56.9	61.6	45.1	57.4	58.2	61.9	47.0	58.9
1977	60.6	65.5	49.4	61.0	62.1	66.9	50.4	62.7
1978	65.2	72.0	52.5	65.5	67.7	74.8	54.4	68.0
1979	72.6	79.9	65.7	71.9	76.7	82.4	74.8	75.7
1980	82.4	86.8	86.0	80.8	86.3	90.8	88.3	84.9
1981	90.9	93.6	97.7	89.2	94.0	94.7	98.8	93.0
1982	96.5	97.4	99.2	95.8	97.6	97.6	100.1	97.2
1983	99.6	99.4	99.9	99.6	101.3	100.2	99.6	101.9
1984	103.9	103.2	100.9	104.6	105.3	104.0	99.8	106.7
1985	107.6	105.6	101.6	109.1	109.3	106.7	101.6	111.3
1986	109.6	109.0	88.2	113.5	110.5	110.8	81.6	115.5
1987	113.6	113.5	88.6	118.2	115.4	114.7	88.3	120.4
1988	118.3	118.2	89.3	123.4	120.5	120.7	88.7	126.0
1989	124.0	125.1	94.3	129.0	126.1	127.4	93.2	131.5
1990	130.7	132.4	102.1	135.5	133.8	134.2	110.1	138.3
1991	136.2	136.3	102.5	142.1	137.9	136.7	101.9	144.4
1992	140.3	137.9	103.0	147.3	141.9	138.7	103.9	149.2
1993	144.5	140.9	104.2	152.2	145.8	142.7	102.4	153.9
1994	148.2	144.3	104.6	156.5	149.7	146.8	104.7	157.9
1995	152.4	148.4	105.2	161.2	153.5	149.9	103.3	162.7
1996	156.9	153.3	110.1	165.6	158.6	156.3	112.2	167.0
1997	160.5	157.3	111.5	169.5	161.3	158.7	108.4	170.7
1998	163.0	160.7	102.9	173.4	163.9	162.3	98.9	174.8
1999	166.6	164.1	106.6	177.0	168.3	165.4	112.2	178.2
2000	172.2	167.8	124.6	181.3	174.0	170.0	128.1	182.8

Table 35. **Consumer Price Index for All Urban Consumers (CPI-U), 1960-2000—Continued**

Year	Annual average percent change from previous year				Percent change to December from prior December			
	All items	Food	Energy	All items less food and energy	All items	Food	Energy	All items less food and energy
1960	1.7	1.0	2.3	1.3	1.4	3.1	1.3	1.0
1961	1.0	1.3	.4	1.3	.7	-.7	-1.3	1.3
1962	1.0	.7	.4	1.3	1.3	1.3	2.2	1.3
1963	1.3	1.6	.0	1.3	1.6	2.0	-.9	1.6
1964	1.3	1.3	-.4	1.6	1.0	1.3	0	1.2
1965	1.6	2.2	1.8	1.2	1.9	3.5	1.8	1.5
1966	2.9	5.0	1.7	2.4	3.5	4.0	1.7	3.3
1967	3.1	.9	2.1	3.6	3.0	1.2	1.7	3.8
1968	4.2	3.5	1.7	4.6	4.7	4.4	1.7	5.1
1969	5.5	5.1	2.5	5.8	6.2	7.0	2.9	6.2
1970	5.7	5.7	2.8	6.3	5.6	2.3	4.8	6.6
1971	4.4	3.1	3.9	4.7	3.3	4.3	3.1	3.1
1972	3.2	4.2	2.6	3.0	3.4	4.6	2.6	3.0
1973	6.2	14.5	8.1	3.6	8.7	20.3	17.0	4.7
1974	11.0	14.3	29.6	8.3	12.3	12.0	21.6	11.1
1975	9.1	8.5	10.5	9.1	6.9	6.6	11.4	6.7
1976	5.8	3.0	7.1	6.5	4.9	.5	7.1	6.1
1977	6.5	6.3	9.5	6.3	6.7	8.1	7.2	6.5
1978	7.6	9.9	6.3	7.4	9.0	11.8	7.9	8.5
1979	11.3	11.0	25.1	9.8	13.3	10.2	37.5	11.3
1980	13.5	8.6	30.9	12.4	12.5	10.2	18.0	12.2
1981	10.3	7.8	13.6	10.4	8.9	4.3	11.9	9.5
1982	6.2	4.1	1.5	7.4	3.8	3.1	1.3	4.5
1983	3.2	2.1	.7	4.0	3.8	2.7	-.5	4.8
1984	4.3	3.8	1.0	5.0	3.9	3.8	.2	4.7
1985	3.6	2.3	.7	4.3	3.8	2.6	1.8	4.3
1986	1.9	3.2	-13.2	4.0	1.1	3.8	-19.7	3.8
1987	3.6	4.1	.5	4.1	4.4	3.5	8.2	4.2
1988	4.1	4.1	.8	4.4	4.4	5.2	.5	4.7
1989	4.8	5.8	5.6	4.5	4.6	5.6	5.1	4.4
1990	5.4	5.8	8.3	5.0	6.1	5.3	18.1	5.2
1991	4.2	3.9	.4	4.9	3.1	1.9	-7.4	4.4
1992	3.0	1.2	.5	3.7	2.9	1.5	2.0	3.3
1993	3.0	2.2	1.2	3.3	2.7	2.9	-1.4	3.2
1994	2.6	2.4	.4	2.8	2.7	2.9	2.2	2.6
1995	2.8	2.8	.6	3.0	2.5	2.1	-1.3	3.0
1996	3.0	3.3	4.7	2.7	3.3	4.3	8.6	2.6
1997	2.3	2.6	1.3	2.4	1.7	1.5	-3.4	2.2
1998	1.6	2.2	-7.7	2.3	1.6	2.3	-8.8	2.4
1999	2.2	2.1	3.6	2.1	2.7	1.9	13.4	1.9
2000	3.4	2.3	18.9	2.4	3.4	2.8	14.2	2.6

Table 36. **Average annual expenditures and percent distribution of all consumer units, selected periods, 1935-36 to 1998-99**

Item	Averages				Percent of current consumption			
	1935-36	1960-61	1972-73	1998-99	1935-36	1960-61	1972-73	1998-99
Characteristics								
Number of consumer units (in thousands)	39,458	55,306	71,220	107,824				
Income before taxes	$1,502	$6,253	$11,726	$42,770				
Income after taxes	-	5,564	10,174	39,489				
Average consumer unit size	3.2	3.2	2.9	2.5				
Percent homeowner	-	61	58	65				
Expenditures								
Current Consumption	$1,273	$5,056	$7,920	$30,778	100.0	100.0	100.0	100.0
Food	428	1,236	1,679	4,861	33.6	24.4	21.2	15.8
Food at home	-	990	1,303	2,848	-	19.6	16.5	9.3
Food away from home	-	246	376	2,013	-	4.9	4.7	6.5
Alcoholic beverages	-	78	82	313	-	1.5	1.0	1.0
Shelter	241	664	1,395	6,796	18.9	13.1	17.6	22.1
Household operations and utilities	134	538	715	2,822	10.5	10.6	9.0	9.2
Housefurnishings	36	266	378	1,435	2.8	5.3	4.8	4.7
Apparel and services	133	519	647	1,649	10.4	10.3	8.2	5.4
Vehicle purchases [1]	96	299	714	3,136	7.5	5.9	9.0	10.2
Vehicle operations	-	393	935	3,246	-	7.8	11.8	10.5
Public transportation	22	77	96	368	1.7	1.5	1.2	1.2
Health care	56	340	429	1,919	4.4	6.7	5.4	6.2
Insurance	-	90	152	918	-	1.8	1.9	3.0
Services	-	168	216	538	-	3.3	2.7	1.7
Drugs	-	69	47	358	-	1.4	.6	1.2
Supplies	-	13	14	105	-	.3	.2	.3
Entertainment	42	200	373	1,710	3.3	4.0	4.7	5.6
Personal care	26	145	101	405	2.0	2.9	1.3	1.3
Tobacco	24	91	128	287	1.9	1.8	1.6	.9
Education	13	54	109	485	1.0	1.1	1.4	1.6
Reading	14	45	48	160	1.1	.9	.6	.5
Other items	8	111	91	1,187	.6	2.2	1.1	3.9

[1] Vehicle purchases also includes vehicle operations for 1935-36 data.

Dash indicates data not available.

Table 37. **Shares of average annual expenditures and characteristics of all consumer units classified by quintiles of income before taxes, Consumer Expenditure Survey, 1989 and 1999**

Item	All consumer units	Complete reporting of income						Incomplete reporting of income
		Total complete reporting	Lowest 20 percent	Second 20 percent	Third 20 percent	Fourth 20 percent	Highest 20 percent	
1989								
Number of consumer units (in thousands)	95,818	82,960	16,558	16,584	16,592	16,607	16,620	12,857
Consumer unit characteristics:								
Income before taxes [1]	$31,308	$31,308	$5,720	$13,894	$23,856	$37,524	$75,406	(1)
Age of reference person	47.2	47.1	51.1	50.5	45.5	43.0	45.4	47.7
Average number in consumer unit:								
Persons	2.6	2.5	1.8	2.2	2.6	2.9	3.1	2.7
Children under 18	.7	.7	.5	.5	.7	.9	.8	.7
Persons 65 and over	.3	.3	.5	.5	.3	.2	.1	.3
Earners	1.4	1.4	.7	1.0	1.4	1.8	2.1	1.4
Vehicles	2.0	2.0	.9	1.5	2.0	2.6	3.1	2.0
Percent homeowner	63	62	41	50	60	71	88	66
Average annual expenditures	$27,810	$28,323	$12,119	$17,616	$24,476	$34,231	$53,093	$24,862
Percent distribution:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	14.9	14.8	18.2	17.6	15.9	14.5	12.8	16.1
Food at home	8.6	8.5	12.5	11.5	9.6	8.1	6.3	9.4
Cereals and bakery products	1.3	1.3	2.0	1.7	1.4	1.2	.9	1.4
Meats, poultry, fish, and eggs	2.2	2.2	3.2	3.1	2.5	2.0	1.6	2.4
Dairy products	1.1	1.1	1.7	1.5	1.2	1.0	.8	1.2
Fruits and vegetables	1.5	1.4	2.2	2.0	1.6	1.4	1.0	1.7
Other food at home	2.5	2.5	3.4	3.2	2.9	2.5	2.0	2.7
Food away from home	6.3	6.3	5.7	6.1	6.3	6.3	6.5	6.7
Alcoholic beverages	1.0	1.1	1.1	1.1	1.3	1.1	.9	.9
Housing	31.0	30.4	35.2	32.7	30.3	28.7	29.6	35.1
Shelter	17.4	17.0	19.6	17.5	16.5	16.0	17.2	19.7
Owned dwellings	10.2	10.0	6.7	6.1	7.9	9.7	13.3	11.8
Rented dwellings	5.4	5.4	11.8	10.4	7.4	4.8	1.7	5.4
Other lodging	1.7	1.6	1.1	1.0	1.2	1.5	2.2	2.4
Utilities, fuels, and public services	6.6	6.4	9.7	8.5	7.2	5.9	4.9	8.0
Household operations	1.7	1.6	1.2	1.3	1.5	1.5	1.9	2.0
Housekeeping supplies	1.4	1.4	1.5	2.0	1.6	1.3	1.3	1.3
Household furnishings and equipment	3.9	3.9	3.1	3.4	3.6	3.9	4.3	4.2
Apparel and services	5.7	5.7	5.2	5.2	5.7	5.9	5.8	6.0
Transportation	18.7	18.6	16.4	18.2	18.6	21.1	17.7	18.7
Vehicle purchases	8.2	8.3	6.9	7.8	7.7	10.2	7.8	7.7
Gasoline and motor oil	3.5	3.5	3.8	4.0	4.1	3.6	2.9	3.9
Other vehicle expenses	5.9	5.9	4.6	5.6	6.1	6.4	5.8	5.7
Public transportation	1.0	1.0	1.1	.8	.8	.9	1.2	1.3
Health care	5.1	5.0	[illegible]	.6	5.6	4.2	3.8	5.6
Entertainment	5.1	5.1	4.2	3.7	4.6	5.1	5.9	5.6
Personal care products and services	1.3	1.3	1.4	1.7	1.4	1.3	1.2	1.3
Reading	.6	.6	.5	.6	.6	.5	.6	.6
Education	1.3	1.2	2.2	.8	.8	.9	1.5	2.1
Tobacco products and smoking supplies	.9	.9	1.5	1.3	1.3	.9	.5	.9
Miscellaneous	2.3	2.4	2.3	2.2	2.7	2.2	2.4	1.8
Cash contributions	3.2	3.3	1.9	2.4	3.0	3.0	4.2	2.8
Personal insurance and pensions	8.9	9.7	2.7	5.0	8.1	10.5	13.2	2.5
Life and other personal insurance	1.2	1.2	.9	1.1	1.1	1.3	1.4	1.3
Pensions and Social Security	7.6	8.5	1.7	3.9	7.0	9.2	11.8	1.1

See footnotes at end of table.

Table 37. **Shares of average annual expenditures and characteristics of all consumer units classified by quintiles of income before taxes, Consumer Expenditure Survey, 1989 and 1999—Continued**

Item	All consumer units	Complete reporting of income						Incomplete reporting of income
		Total complete reporting	Lowest 20 percent	Second 20 percent	Third 20 percent	Fourth 20 percent	Highest 20 percent	
1999								
Number of consumer units (in thousands)	108,465	81,692	16,307	16,351	16,332	16,341	16,361	26,773
Consumer unit characteristics:								
Income before taxes [1]	$43,951	$43,951	$7,264	$18,033	$31,876	$52,331	$110,105	(1)
Age of reference person	47.9	47.9	51.6	51.6	46.5	44.1	45.9	47.8
Average number in consumer unit:								
Persons	2.5	2.5	1.8	2.2	2.5	2.8	3.1	2.6
Children under 18	.7	.7	.4	.6	.7	.8	.8	.7
Persons 65 and over	.3	.3	.4	.5	.3	.2	.1	.3
Earners	1.3	1.4	.7	.9	1.3	1.8	2.0	1.3
Vehicles	1.9	2.0	1.0	1.6	2.0	2.4	2.8	1.8
Percent homeowner	65	64	43	55	63	73	88	67
Average annual expenditures	$36,995	$39,143	$16,750	$24,840	$33,029	$45,998	$75,015	$30,787
Percent distribution:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	13.6	13.3	16.2	15.2	14.5	13.5	11.4	14.9
Food at home	7.9	7.7	10.9	10.0	8.6	7.9	5.7	8.7
Cereals and bakery products	1.2	1.2	1.7	1.5	1.3	1.2	.9	1.4
Meats, poultry, fish, and eggs	2.0	1.9	3.0	2.6	2.2	2.0	1.3	2.4
Dairy products	.9	.9	1.2	1.1	1.0	.9	.7	.9
Fruits and vegetables	1.4	1.3	1.9	1.8	1.5	1.3	1.0	1.5
Other food at home	2.4	2.4	3.1	3.0	2.7	2.5	1.8	2.6
Food away from home	5.7	5.6	5.3	5.2	6.0	5.6	5.7	6.2
Alcoholic beverages	.9	.9	1.0	.9	.8	.8	.9	.8
Housing	32.6	31.5	37.0	34.0	31.6	30.2	30.1	36.8
Shelter	19.0	18.0	21.4	19.0	18.1	17.2	17.5	22.3
Owned dwellings	12.2	11.5	8.1	8.3	10.1	11.5	14.0	14.9
Rented dwellings	5.5	5.3	12.4	9.7	7.2	4.8	1.8	6.0
Other lodging	1.3	1.2	.9	.9	.8	.9	1.7	1.4
Utilities, fuels, and public services	6.4	6.1	9.2	7.9	6.9	5.8	4.5	7.8
Household operations	1.8	1.8	1.5	1.6	1.2	1.6	2.4	1.7
Housekeeping supplies	1.3	1.4	1.5	1.5	1.5	1.5	1.2	1.2
Household furnishings and equipment	4.1	4.1	3.4	3.9	3.9	4.1	4.5	3.8
Apparel and services	4.7	4.8	4.7	5.4	5.3	4.3	4.6	4.6
Transportation	19.0	18.4	16.7	19.1	19.3	19.6	17.6	20.7
Vehicle purchases (net outlay)	8.9	8.7	7.3	9.2	8.8	9.4	8.4	9.7
Gasoline and motor oil	2.9	2.7	3.0	3.1	3.3	2.9	2.2	3.3
Other vehicle expenses	6.1	6.0	5.4	5.9	6.4	6.3	5.7	6.5
Public transportation	1.1	1.0	1.0	1.0	.9	.9	1.2	1.2
Health care	5.3	5.2	7.5	7.7	5.9	4.8	3.8	5.6
Entertainment	5.1	5.1	4.8	4.4	4.7	5.2	5.4	5.3
Personal care products and services	1.1	1.1	1.3	1.2	1.3	1.1	1.0	1.0
Reading	.4	.4	.5	.5	.4	.4	.4	.4
Education	1.7	1.5	2.7	1.1	1.0	1.1	1.8	2.5
Tobacco products and smoking supplies	.8	.8	1.4	1.2	1.0	.8	.4	.8
Miscellaneous	2.3	2.4	2.1	2.3	2.4	2.3	2.5	2.2
Cash contributions	3.2	3.4	1.8	2.6	3.2	3.4	4.2	2.2
Personal insurance and pensions	9.3	11.1	2.4	4.5	8.4	12.3	15.7	2.1
Life and other personal insurance	1.1	1.0	.8	.8	.9	1.0	1.2	1.1
Pensions and Social Security	8.2	10.1	1.6	3.7	7.5	11.3	14.5	[illegible]

[1] Components of income and taxes are derived from "complete income reporters" only; see glossary.
n.a. Not applicable.

Table 38. **Shares of average annual expenditures and characteristics of all consumer units classified by age of the reference person, Consumer Expenditure Survey, 1989 and 1999**

Item	All consumer units	Under 25	25-34	35-44	45-54	55-64	65 and over	65-74	75 and over
1989									
Number of consumer units (in thousands)	95,818	7,633	20,855	20,436	14,566	12,005	20,323	11,848	8,474
Consumer unit characteristics:									
Income before taxes [1]	$31,308	$14,863	$30,655	$40,915	$41,968	$34,777	$19,690	$22,051	$16,285
Age of reference person	47.2	21.5	29.7	39.4	49.2	59.6	73.9	69.2	80.5
Average number in consumer unit:									
Persons	2.6	1.8	2.7	3.3	3.0	2.3	1.8	1.9	1.6
Children under 18	.7	.4	1.1	1.4	.7	.2	.1	.1	(2)
Persons 65 and over	.3	(2)	(2)	(2)	(2)	.1	1.4	1.4	1.4
Earners	1.4	1.3	1.5	1.8	2.0	1.5	.5	.6	.2
Vehicles	2.0	1.2	1.9	2.4	2.7	2.3	1.4	1.7	1.1
Percent homeowner	63	8	44	69	74	82	76	78	74
Average annual expenditures	$27,810	$16,577	$26,683	$35,589	$36,073	$28,617	$18,967	$21,152	$15,919
Percent distribution:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	14.9	15.1	14.7	14.7	14.9	15.5	15.4	15.2	15.7
Food at home	8.6	7.8	8.1	8.4	8.3	9.1	10.1	9.7	10.8
Cereals and bakery products	1.3	1.2	1.2	1.3	1.2	1.3	1.6	1.4	1.9
Meats, poultry, fish, and eggs	2.2	1.7	2.0	2.1	2.3	2.5	2.5	2.5	2.6
Dairy products	1.1	1.1	1.1	1.1	1.0	1.1	1.2	1.2	1.4
Fruits and vegetables	1.5	1.2	1.3	1.4	1.4	1.6	2.0	1.9	2.2
Other food at home	2.5	2.6	2.5	2.5	2.4	2.6	2.6	2.6	2.7
Food away from home	6.3	7.4	6.6	6.3	6.6	6.3	5.3	5.5	5.0
Alcoholic beverages	1.0	1.9	1.4	.9	.8	1.0	.7	.8	.6
Housing	31.0	28.9	33.4	30.7	29.6	28.5	32.5	32.0	33.4
Shelter	17.4	18.4	19.6	17.9	16.7	15.1	15.8	15.5	16.2
Owned dwellings	10.2	1.7	9.7	12.3	10.9	10.2	9.1	9.5	8.4
Rented dwellings	5.4	15.9	8.8	4.1	3.4	2.6	4.8	4.1	6.1
Other lodging	1.7	.7	1.1	1.6	2.4	2.3	1.8	1.9	1.7
Utilities, fuels, and public services	6.6	5.2	6.1	6.0	6.3	7.1	8.9	8.6	9.6
Household operations	1.7	.7	2.3	1.7	1.1	1.2	2.2	1.7	3.0
Housekeeping supplies	1.4	1.0	1.3	1.4	1.3	1.4	1.9	1.8	2.0
Household furnishings and equipment	3.9	3.5	4.2	3.8	4.2	3.7	3.8	4.3	2.7
Apparel and services	5.7	6.9	5.8	6.0	5.6	5.5	4.8	5.4	3.6
Transportation	18.7	24.0	19.0	18.5	18.9	18.7	16.3	17.5	14.1
Vehicle purchases	8.2	12.9	8.4	8.5	7.9	8.0	6.7	6.8	6.5
Gasoline and motor oil	3.5	4.3	3.6	3.4	3.6	3.8	3.1	3.6	2.4
Other vehicle expenses	5.9	5.9	6.1	5.8	6.2	5.8	5.1	5.7	4.1
Public transportation	1.0	.9	.9	.8	1.2	1.1	1.3	1.4	1.1
Health care	5.1	2.1	3.4	3.8	3.9	6.3	11.3	9.4	14.8
Entertainment	5.1	5.6	5.2	5.8	5.1	4.8	3.8	4.0	3.4
Personal care products and services	1.3	1.5	1.3	1.2	1.3	1.4	1.5	1.5	1.4
Reading	.6	.5	.5	.5	.5	.6	.7	.7	.7
Education	1.3	4.0	.9	1.4	2.0	.9	.4	.5	.2
Tobacco products and smoking supplies	.9	1.2	.9	.9	.9	1.1	.8	.9	.6
Miscellaneous	2.3	1.6	2.2	2.5	2.4	2.3	2.3	2.4	2.1
Cash contributions	3.2	.7	1.9	2.6	3.9	4.0	5.8	4.8	7.5
Personal insurance and pensions	8.9	6.1	9.5	10.4	10.3	9.3	3.9	5.0	1.9
Life and other personal insurance	1.2	.5	.9	1.4	1.3	1.4	1.5	1.7	1.1
Pensions and Social Security	7.6	5.6	8.5	9.0	9.0	8.0	2.4	3.3	.7

[redacted]

Table 38. **Shares of average annual expenditures and characteristics of all consumer units classified by age of the reference person, Consumer Expenditure Survey, 1989 and 1999—Continued**

Item	All consumer units	Under 25	25-34	35-44	45-54	55-64	65 and over	65-74	75 and over
1999									
Number of consumer units (in thousands)	108,465	8,164	19,332	24,405	20,903	13,647	22,015	11,578	10,437
Consumer unit characteristics:									
Income before taxes [1]	$43,951	$18,276	$42,470	$53,579	$59,822	$49,436	$26,581	$28,928	$23,937
Age of reference person	47.9	21.4	29.7	39.5	49.2	59.1	74.8	69.3	80.8
Average number in consumer unit:									
Persons	2.5	1.8	2.9	3.2	2.7	2.2	1.7	1.9	1.5
Children under 18	.7	.4	1.1	1.3	.6	.2	.1	.1	(2)
Persons 65 and over	.3	(2)	(2)	(2)	(2)	.1	1.4	1.4	1.3
Earners	1.3	1.3	1.5	1.7	1.8	1.3	.4	.6	.2
Vehicles	1.9	1.1	1.7	2.1	2.5	2.2	1.5	1.8	1.2
Percent homeowner	65	13	45	67	77	80	80	82	77
Average annual expenditures	$36,995	$21,704	$36,158	$42,792	$46,511	$39,394	$26,521	$29,864	$22,884
Percent distribution:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	13.6	15.5	14.2	14.3	12.8	12.8	13.2	13.9	12.4
Food at home	7.9	8.4	8.0	8.3	7.2	7.4	8.5	8.6	8.5
Cereals and bakery products	1.2	1.2	1.2	1.3	1.1	1.1	1.3	1.3	1.4
Meats, poultry, fish, and eggs	2.0	2.2	2.1	2.1	1.9	1.9	2.1	2.2	2.0
Dairy products	.9	.9	.9	1.0	.8	.8	1.0	1.0	1.0
Fruits and vegetables	1.4	1.3	1.3	1.3	1.2	1.3	1.7	1.7	1.8
Other food at home	2.4	2.8	2.5	2.6	2.2	2.3	2.4	2.4	2.4
Food away from home	5.7	7.0	6.2	6.0	5.6	5.4	4.7	5.3	3.9
Alcoholic beverages	.9	1.7	1.0	.9	.7	.8	.6	.7	.5
Housing	32.6	30.3	34.6	33.2	31.2	30.7	33.7	32.2	35.9
Shelter	19.0	19.1	21.1	20.1	18.3	16.9	17.3	16.5	18.3
Owned dwellings	12.2	2.7	10.9	14.3	13.3	12.2	11.2	11.5	10.8
Rented dwellings	5.5	15.2	9.5	5.0	3.3	3.1	4.5	3.2	6.2
Other lodging	1.3	1.1	.6	.9	1.7	1.6	1.6	1.8	1.3
Utilities, fuels, and public services	6.4	5.4	6.2	6.0	6.1	6.6	8.1	7.9	8.3
Household operations	1.8	.8	2.1	1.9	1.3	1.2	2.8	1.5	4.7
Housekeeping supplies	1.3	1.0	1.2	1.4	1.2	1.4	1.6	1.7	1.5
Household furnishings and equipment	4.1	4.0	4.0	3.7	4.3	4.5	4.0	4.5	3.2
Apparel and services	4.7	5.5	5.7	4.8	4.4	4.4	4.0	4.1	3.9
Transportation	19.0	23.2	19.8	18.8	19.4	18.6	16.5	18.3	14.0
Vehicle purchases (net outlay)	8.9	13.2	9.7	8.9	8.9	8.6	7.2	8.1	5.9
Gasoline and motor oil	2.9	3.3	2.9	2.9	2.9	2.8	2.4	2.7	2.0
Other vehicle expenses	6.1	5.8	6.2	6.0	6.6	5.9	5.4	5.8	4.9
Public transportation	1.1	1.0	.9	1.0	1.0	1.2	1.5	1.7	1.1
Health care	5.3	2.5	3.2	3.8	4.7	6.2	11.4	10.0	13.3
Entertainment	5.1	5.3	4.9	5.3	5.1	5.5	4.7	5.2	3.8
Personal care products and services	1.1	1.2	1.1	1.1	1.0	1.1	1.3	1.2	1.3
Reading	.4	.3	.3	.4	.5	.5	.6	.6	.6
Education	1.7	5.9	1.3	1.5	2.4	1.4	.5	.6	.5
Tobacco products and smoking supplies	.8	1.0	.8	.9	.8	.8	.6	.7	.4
Miscellaneous	2.3	1.6	2.0	2.2	2.3	2.6	3.0	2.6	3.5
Cash contributions	3.2	.8	1.6	2.5	3.0	4.4	6.1	5.6	6.9
Personal insurance and pensions	9.3	5.1	9.5	10.4	11.6	10.0	3.7	4.3	2.8
Life and other personal insurance	1.1	.3	.7	1.0	1.3	1.4	1.3	1.4	1.0
Pensions and Social Security	8.2	4.8	8.8	9.4	10.3	8.7	2.4	2.8	1.8

[1] Components of income and taxes are derived from "complete income reporters" only; see glossary.
[2] Value less than 0.05.

Table 39. **Shares of average annual expenditures and characteristics of all consumer units classified by composition of the consumer unit, Consumer Expenditure Survey, 1989 and 1999**

Item	Husband and wife consumer units							One parent, at least one child under 18	Single person and other consumer units
	Total husband and wife consumer units	Husband and wife only	Husband and wife with children				Other husband and wife consumer units		
			Total husband and wife with children	Oldest child under 6	Oldest child 6 to 17	Oldest child 18 or over			
1989									
Number of consumer units (in thousands)	52,728	20,883	28,271	6,265	13,721	8,285	3,574	5,561	37,528
Consumer unit characteristics:									
Income before taxes [1]	$40,913	$37,183	$43,576	$37,601	$43,486	$48,660	$42,171	$17,416	$20,260
Age of reference person	47.4	56.1	40.9	30.7	38.8	51.9	47.9	35.3	48.7
Average number in consumer unit:									
Persons	3.2	2.0	3.9	3.5	4.1	3.9	4.9	2.9	1.6
Children under 18	.9	n.a.	1.5	1.5	2.1	.6	1.6	1.8	.2
Persons 65 and over	.3	.7	.1	(2)	(2)	.2	.5	(2)	.3
Earners	1.8	1.2	2.1	1.7	1.9	2.7	2.4	1.0	.9
Vehicles	2.6	2.3	2.9	2.2	2.7	3.6	2.9	1.0	1.3
Percent homeowner	78	80	77	64	77	89	77	34	44
Average annual expenditures	$34,826	$30,604	$37,580	$33,791	$37,644	$40,433	$37,705	$19,186	$19,087
Percent distribution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	14.9	14.3	15.1	13.7	15.6	15.4	16.8	17.8	14.2
Food at home	8.7	7.9	8.9	8.5	9.2	8.7	11.4	11.6	7.6
Cereals and bakery products	1.3	1.2	1.4	1.2	1.5	1.3	1.7	1.8	1.1
Meats, poultry, fish, and eggs	2.2	2.0	2.3	2.0	2.3	2.5	2.9	3.0	1.9
Dairy products	1.1	1.0	1.1	1.2	1.2	1.0	1.5	1.5	1.0
Fruits and vegetables	1.5	1.5	1.4	1.4	1.4	1.4	1.9	1.9	1.4
Other food at home	2.6	2.2	2.7	2.7	2.8	2.5	3.4	3.4	2.3
Food away from home	6.2	6.5	6.2	5.2	6.3	6.6	5.4	6.2	6.5
Alcoholic beverages	.8	1.0	.8	.9	.7	.8	.9	.7	1.5
Housing	30.0	30.5	29.9	34.4	30.4	26.1	28.8	35.8	32.7
Shelter	16.4	16.6	16.3	18.2	17.1	13.8	15.3	19.7	19.8
Owned dwellings	11.3	10.9	11.7	12.4	12.3	10.5	9.9	7.9	7.9
Rented dwellings	3.1	3.3	3.0	4.9	3.2	1.4	3.4	11.0	10.4
Other lodging	1.9	2.4	1.6	1.0	1.6	2.0	1.9	.9	1.5
Utilities, fuels, and public services	6.3	6.4	6.2	5.7	6.1	6.5	7.1	8.4	7.1
Household operations	1.8	1.2	2.1	4.4	1.9	.9	1.6	3.0	1.2
Housekeeping supplies	1.5	1.6	1.4	1.6	1.4	1.4	1.4	1.5	1.2
Household furnishings and equipment	4.1	4.7	3.9	4.4	3.9	3.5	3.4	3.2	3.4
Apparel and services	5.6	5.4	5.7	5.7	5.9	5.3	5.2	7.9	5.7
Transportation	19.3	18.5	19.5	18.8	18.6	21.4	20.5	16.0	17.6
Vehicle purchases	8.7	8.0	9.1	9.2	8.7	9.6	9.7	7.3	7.2
Gasoline and motor oil	3.6	3.5	3.7	3.3	3.6	4.2	3.8	2.9	3.4
Other vehicle expenses	6.0	5.9	6.0	5.8	5.6	6.7	6.0	4.8	5.8
Public transportation	.9	1.2	.8	.5	.7	.9	1.0	1.0	1.3
Health care	5.1	6.5	4.2	4.0	4.2	4.4	5.4	3.5	5.2
Entertainment	5.4	4.6	5.9	5.7	5.8	6.2	5.4	4.7	4.5
Personal care products and services	1.3	1.3	1.2	1.2	1.2	1.3	1.2	1.6	1.4
Reading	.5	.6	.5	.5	.5	.5	.5	.5	.6
Education	1.2	.6	1.6	.4	1.5	2.5	1.2	1.0	1.6
Tobacco products and smoking supplies	.8	.8	.8	.8	.8	.9	1.0	1.0	1.2
Miscellaneous	2.1	2.1	2.1	1.7	2.2	2.2	2.4	2.5	2.8
Cash contributions	3.2	4.5	2.5	1.6	2.3	3.3	2.6	1.2	3.6
Personal insurance and pensions	9.6	9.1	10.1	10.6	10.2	9.8	8.2	6.1	7.5
Life and other personal insurance	1.4	1.5	1.3	1.3	1.3	1.4	1.3	.8	.9
Pensions and Social Security	8.2	7.6	8.8	9.3	8.8	8.4	6.9	5.3	6.6

See footnotes at end of table.

Table 39. **Shares of average annual expenditures and characteristics of all consumer units classified by composition of the consumer unit, Consumer Expenditure Survey, 1989 and 1999—Continued**

Item	Husband and wife consumer units							One parent, at least one child under 18	Single person and other consumer units
	Total husband and wife consumer units	Husband and wife only	Husband and wife with children				Other husband and wife consumer units		
			Total husband and wife with children	Oldest child under 6	Oldest child 6 to 17	Oldest child 18 or over			
1999									
Number of consumer units (in thousands)	56,429	23,406	28,535	5,304	15,378	7,853	4,488	6,571	45,465
Consumer unit characteristics:									
Income before taxes [1]	$59,126	$54,062	$63,666	$57,922	$63,556	$68,094	$56,519	$25,685	$28,281
Age of reference person	48.2	56.8	41.2	31.7	39.5	50.9	48.4	36.3	49.2
Average number in consumer unit:									
Persons	3.2	2.0	3.9	3.5	4.1	3.9	4.9	2.9	1.6
Children under 18	.9	n.a.	1.6	1.5	2.1	.6	1.5	1.8	.2
Persons 65 and over	.3	.7	.1	(2)	(2)	.2	.4	(2)	.3
Earners	1.7	1.2	2.0	1.6	1.8	2.6	2.4	1.1	.9
Vehicles	2.6	2.4	2.7	2.1	2.6	3.2	2.9	1.2	1.3
Percent homeowner	81	84	79	67	79	86	76	39	49
Average annual expenditures	$47,149	$42,133	$51,154	$46,085	$51,453	$54,214	$47,942	$27,900	$25,835
Percent distribution:	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Food	13.5	12.8	13.8	11.7	14.5	13.7	15.5	16.2	13.6
Food at home	7.8	7.1	8.1	7.3	8.5	7.9	9.4	10.5	7.7
Cereals and bakery products	1.2	1.1	1.3	1.1	1.4	1.2	1.4	1.8	1.2
Meats, poultry, fish, and eggs	2.0	1.8	2.0	1.7	2.1	2.1	2.6	2.8	2.0
Dairy products	.9	.8	.9	.9	1.0	.9	1.0	1.1	.8
Fruits and vegetables	1.3	1.3	1.3	1.2	1.4	1.3	1.7	1.6	1.3
Other food at home	2.4	2.2	2.5	2.4	2.6	2.4	2.8	3.2	2.4
Food away from home	5.7	5.6	5.6	4.4	6.0	5.8	6.0	5.7	5.9
Alcoholic beverages	.7	.9	.6	.6	.6	.5	.6	.5	1.2
Housing	31.4	30.8	32.0	37.3	31.9	29.0	30.0	36.2	34.7
Shelter	17.8	17.3	18.4	21.9	18.4	16.3	16.6	21.1	21.1
Owned dwellings	13.6	12.7	14.4	16.4	14.7	12.7	12.1	9.5	9.5
Rented dwellings	2.9	2.8	2.9	4.9	2.8	1.9	3.6	11.1	10.4
Other lodging	1.4	1.8	1.1	.6	.9	1.8	1.0	.5	1.2
Utilities, fuels, and public services	6.1	6.1	5.9	5.6	5.8	6.1	6.9	7.9	7.0
Household operations	1.8	1.3	2.2	4.6	2.1	1.0	1.5	2.5	1.7
Housekeeping supplies	1.4	1.5	1.4	1.2	1.5	1.5	1.3	1.3	1.2
Household furnishings and equipment	4.2	4.6	4.0	4.0	4.1	4.1	3.6	3.5	3.8
Apparel and services	4.6	4.0	4.9	4.5	5.2	4.6	5.3	7.0	4.6
Transportation	19.7	19.1	20.0	20.3	18.6	22.2	20.4	16.8	17.5
Vehicle purchases (net outlay)	9.4	9.0	9.7	10.5	9.2	10.0	9.1	8.1	8.0
Gasoline and motor oil	2.9	2.7	3.0	2.8	2.8	3.4	3.4	2.6	2.7
Other vehicle expenses	6.3	6.1	6.4	6.3	5.8	7.7	6.7	5.3	5.7
Public transportation	1.1	1.4	.9	.7	.8	1.1	1.1	.8	1.1
Health care	5.3	6.9	4.3	3.7	4.2	4.9	5.3	3.6	5.4
Entertainment	5.3	5.4	5.4	4.6	6.1	4.7	4.4	4.9	4.6
Personal care products and services	1.1	1.1	1.1	1.0	1.1	1.1	1.0	1.3	1.2
Reading	.4	.5	.4	.3	.4	.4	.3	.3	.5
Education	1.8	1.3	2.2	.7	2.0	3.4	1.2	1.5	1.6
Tobacco products and smoking supplies	.7	.6	.7	.5	.7	.7	1.0	.9	1.1
Miscellaneous	2.2	2.2	2.1	2.4	1.9	2.2	2.8	3.0	2.7
Cash contributions	3.1	4.2	2.3	1.8	2.3	2.7	3.0	1.3	3.7
Personal insurance and pensions	10.2	10.2	10.4	10.7	10.5	9.9	9.2	6.5	7.6
Life and other personal insurance	1.3	1.3	1.3	.9	1.4	1.3	1.3	.6	.7
Pensions and Social Security	8.9	8.9	9.1	9.9	9.1	8.6	7.9	5.9	6.9

[1] Components of income and taxes are derived from "complete income reporters" only; see glossary.
[2] Value less than 0.05.
n.a. Not applicable.

Table 40. **Shares of average annual expenditures and characteristics of all consumer units classified by region of residence, Consumer Expenditure Survey, 1989 and 1999**

Item	All consumer units	Northeast	Midwest	South	West
1989					
Number of consumer units (in thousands)	95,818	20,101	24,351	31,935	19,430
Consumer unit characteristics:					
Income before taxes [1]	$31,308	$34,122	$29,452	$29,669	$33,372
Age of reference person	47.2	48.6	46.9	47.4	45.8
Average number in consumer unit					
Persons	2.6	2.5	2.6	2.8	2.6
Children under 18	.7	.6	.7	.7	.7
Persons 65 and over	.3	.3	.3	.3	.3
Earners	1.4	1.4	1.4	1.3	1.4
Vehicles	2.0	1.6	2.2	2.0	2.2
Percent homeowner	63	60	65	65	58
Average annual expenditures	$27,810	$28,241	$26,062	$26,232	$32,144
Percent distribution:	100.0	100.0	100.0	100.0	100.0
Food	14.9	15.7	15.1	14.7	14.4
Food at home	8.6	8.7	8.6	8.6	8.6
Cereals and bakery products	1.3	1.4	1.3	1.3	1.2
Meats, poultry, fish, and eggs	2.2	2.3	2.1	2.2	2.1
Dairy products	1.1	1.1	1.1	1.1	1.1
Fruits and vegetables	1.5	1.5	1.4	1.4	1.5
Other food at home	2.5	2.3	2.6	2.6	2.6
Food away from home	6.3	7.0	6.5	6.2	5.8
Alcoholic beverages	1.0	1.1	1.1	.9	1.1
Housing	31.0	32.7	29.8	30.0	31.9
Shelter	17.4	19.3	15.8	15.5	19.7
Owned dwellings	10.2	11.0	9.9	9.0	11.6
Rented dwellings	5.4	6.3	4.3	4.8	6.4
Other lodging	1.7	2.0	1.6	1.7	1.7
Utilities, fuels, and public services	6.6	6.8	7.0	7.2	5.2
Household operations	1.7	1.6	1.5	1.8	1.8
Housekeeping supplies	1.4	1.4	1.5	1.5	1.3
Household furnishings and equipment	3.9	3.7	4.0	4.0	3.9
Apparel and services	5.7	6.0	5.7	5.4	5.8
Transportation	18.7	16.8	19.1	18.9	19.6
Vehicle purchases	8.2	6.7	8.3	8.3	9.5
Gasoline and motor oil	3.5	3.0	3.8	4.1	3.1
Other vehicle expenses	5.9	5.7	6.1	5.8	5.8
Public transportation	1.0	1.4	.8	.8	1.2
Health care	5.1	4.6	5.1	5.7	4.5
Entertainment	5.1	5.6	4.8	5.0	5.2
Personal care products and services	1.3	1.3	1.3	1.4	1.3
Reading	.6	.6	.6	.5	.5
Education	1.3	1.6	1.5	1.2	1.1
Tobacco products and smoking supplies	.9	.9	1.1	1.0	.7
Miscellaneous	2.3	2.0	2.4	2.4	2.4
Cash contributions	3.2	2.5	3.2	4.0	2.9
Personal insurance and pensions	8.9	8.8	9.4	8.9	8.6
Life and other personal insurance	1.2	1.2	1.3	1.5	.9
Pensions and Social Security	7.6	7.6	8.1	7.4	7.6

See footnote at end of table.

Table 40. **Shares of average annual expenditures and characteristics of all consumer units classified by region of residence, Consumer Expenditure Survey, 1989 and 1999—Continued**

Item	All consumer units	Northeast	Midwest	South	West
1999					
Number of consumer units (in thousands)	108,465	20,979	25,765	37,816	23,906
Consumer unit characteristics:					
Income before taxes [1]	$43,951	$48,307	$41,983	$40,387	$47,494
Age of reference person	47.9	49.3	48.4	47.6	46.6
Average number in consumer unit:					
Persons	2.5	2.5	2.5	2.5	2.6
Children under 18	.7	.6	.7	.7	.7
Persons 65 and over	.3	.3	.3	.3	.3
Earners	1.3	1.4	1.4	1.3	1.4
Vehicles	1.9	1.6	2.1	1.9	2.0
Percent homeowner	65	63	69	67	59
Average annual expenditures	$36,995	$38,403	$36,302	$33,303	$42,335
Percent distribution:	100.0	100.0	100.0	100.0	100.0
Food	13.6	14.3	13.4	13.9	12.9
Food at home	7.9	8.0	7.8	8.2	7.7
Cereals and bakery products	1.2	1.3	1.2	1.3	1.1
Meats, poultry, fish, and eggs	2.0	2.2	1.8	2.2	1.9
Dairy products	.9	.9	.8	.9	.8
Fruits and vegetables	1.4	1.5	1.2	1.4	1.4
Other food at home	2.4	2.2	2.5	2.5	2.4
Food away from home	5.7	6.2	5.9	5.9	5.2
Alcoholic beverages	.9	1.0	.9	.8	.9
Housing	32.6	34.8	31.7	31.0	33.5
Shelter	19.0	21.5	17.9	16.6	20.9
Owned dwellings	12.2	13.8	12.3	10.6	12.9
Rented dwellings	5.5	6.3	4.4	4.9	6.5
Other lodging	1.3	1.4	1.2	1.1	1.5
Utilities, fuels, and public services	6.4	6.4	6.6	7.3	5.1
Household operations	1.8	1.7	1.6	1.7	2.2
Housekeeping supplies	1.3	1.3	1.5	1.4	1.2
Household furnishings and equipment	4.1	3.9	4.1	4.0	4.1
Apparel and services	4.7	4.7	4.4	4.8	4.9
Transportation	18.9	16.8	19.1	20.6	18.4
Vehicle purchases (net outlay)	8.9	7.0	9.3	10.4	8.3
Gasoline and motor oil	2.9	2.4	2.9	3.2	2.8
Other vehicle expenses	6.1	6.0	6.0	6.1	6.2
Public transportation	1.1	1.4	1.0	.9	1.2
Health care	5.3	4.7	5.7	5.9	4.6
Entertainment	5.1	4.8	5.7	4.7	5.4
Personal care products and services	1.1	1.1	1.1	1.2	1.1
Reading	.4	.5	.5	.4	.4
Education	1.7	2.4	1.6	1.4	1.7
Tobacco products and smoking supplies	.8	.8	1.0	.9	.5
Miscellaneous	2.3	2.2	2.4	2.3	2.5
Cash contributions	3.2	2.9	3.2	3.4	3.2
Personal insurance and pensions	9.3	9.1	9.4	8.8	9.9
Life and other personal insurance	1.1	1.0	1.0	1.2	.9
Pensions and Social Security	8.2	8.1	8.4	7.6	9.0

[1] Components of income and taxes are derived from "complete income reporters" only; see glossary.

Table 41. **Shares of average annual expenditures and characteristics of all consumer units classified by origin of the reference person, Consumer Expenditure Survey, 1989 and 1999**

Item	All consumer units	Hispanic	Non-Hispanic		
			Total Non-Hispanic	Non-Hispanic less Afro-American	Afro-American
1989					
Number of consumer units (in thousands)	95,818	5,857	89,960	80,961	8,999
Consumer unit characteristics:					
Income before taxes [1]	$31,308	$23,098	$31,863	$33,007	$21,270
Age of reference person	47.2	40.6	47.6	47.9	45.4
Average number in consumer unit:					
Persons	2.6	3.3	2.5	2.5	2.8
Children under 18	.7	1.2	.7	.6	1.1
Persons 65 and over	.3	.1	.3	.3	.2
Earners	1.4	1.6	1.4	1.4	1.2
Vehicles	2.0	1.5	2.0	2.1	1.1
Percent homeowner	63	36	64	67	41
Average annual expenditures	$27,810	$23,226	$28,106	$29,201	$18,294
Percent distribution:	100.0	100.0	100.0	100.0	100.0
Food	14.9	18.9	14.7	14.6	16.1
Food at home	8.6	12.1	8.4	8.3	10.5
Cereals and bakery products	1.3	1.7	1.3	1.3	1.5
Meats, poultry, fish, and eggs	2.2	3.5	2.1	2.0	3.6
Dairy products	1.1	1.5	1.1	1.1	1.1
Fruits and vegetables	1.5	2.2	1.4	1.4	1.8
Other food at home	2.5	3.2	2.5	2.5	2.7
Food away from home	6.3	6.8	6.3	6.4	5.6
Alcoholic beverages	1.0	1.0	1.0	1.0	.8
Housing	31.0	33.9	30.8	30.5	34.4
Shelter	17.4	21.4	17.2	17.0	19.0
Owned dwellings	10.2	8.7	10.3	10.5	7.6
Rented dwellings	5.4	11.8	5.0	4.7	10.7
Other lodging	1.7	.9	1.8	1.9	.8
Utilities, fuels, and public services	6.6	6.4	6.6	6.4	9.9
Household operations	1.7	1.5	1.7	1.7	1.2
Housekeeping supplies	1.4	1.5	1.4	1.4	1.3
Household furnishings and equipment	3.9	3.1	4.0	4.0	3.1
Apparel and services	5.7	7.0	5.6	5.5	6.9
Transportation	18.7	17.5	18.7	18.8	17.4
Vehicle purchases (net outlay)	8.2	8.3	8.2	8.3	6.8
Gasoline and motor oil	3.5	3.3	3.6	3.6	3.5
Other vehicle expenses	5.9	4.7	5.9	5.9	5.9
Public transportation	1.0	1.2	1.0	1.0	1.2
Health care	5.1	3.3	5.2	5.2	3.8
Entertainment	5.1	4.0	5.2	5.3	3.1
Personal care products and services	1.3	1.5	1.3	1.3	1.5
Reading	.6	.3	.6	.6	.4
Education	1.3	.6	1.4	1.4	1.3
Tobacco products and smoking supplies	.9	.6	1.0	.9	1.3
Miscellaneous	2.3	2.1	2.3	2.3	2.5
Cash contributions	3.2	1.7	3.3	3.4	1.9
Personal insurance and pensions	8.9	7.6	9.0	9.0	8.6
Life and other personal insurance	1.2	.6	1.3	1.2	1.7
Pensions and Social Security	7.6	7.0	7.7	7.7	6.9

See footnote at end of table.

Table 41. **Shares of average annual expenditures and characteristics of all consumer units classified by origin of the reference person, Consumer Expenditure Survey, 1989 and 1999—Continued**

Item	All consumer units	Hispanic	Non-Hispanic		
			Total Non-Hispanic	Non-Hispanic less Afro-American	Afro-American
1999					
Number of consumer units (in thousands)	108,465	9,111	99,354	87,924	11,431
Consumer unit characteristics:					
Income before taxes [1]	$43,951	$33,803	$44,955	$46,746	$30,325
Age of reference person	47.9	41.2	48.5	49.0	45.0
Average number in consumer unit:					
Persons	2.5	3.5	2.4	2.4	2.7
Children under 18	.7	1.3	.6	.6	.9
Persons 65 and over	.3	.2	.3	.3	.2
Earners	1.3	1.6	1.3	1.3	1.3
Vehicles	1.9	1.6	2.0	2.0	1.3
Percent homeowner	65	44	67	69	48
Average annual expenditures	$36,995	$33,044	$37,356	$38,658	$27,280
Percent distribution:	100.0	100.0	100.0	100.0	100.0
Food	13.6	16.6	13.3	13.2	15.0
Food at home	7.9	10.8	7.6	7.5	9.6
Cereals and bakery products	1.2	1.5	1.2	1.2	1.5
Meats, poultry, fish, and eggs	2.0	3.3	1.9	1.8	3.2
Dairy products	.9	1.1	.8	.8	.9
Fruits and vegetables	1.4	2.0	1.3	1.3	1.5
Other food at home	2.4	2.8	2.4	2.4	2.6
Food away from home	5.7	5.9	5.7	5.7	5.4
Alcoholic beverages	.9	.8	.9	.9	.5
Housing	32.6	33.3	32.5	32.3	35.2
Shelter	19.0	20.5	18.8	18.8	19.8
Owned dwellings	12.2	9.6	12.4	12.7	9.9
Rented dwellings	5.5	10.3	5.1	4.7	9.4
Other lodging	1.3	.5	1.3	1.4	.5
Utilities, fuels, and public services	6.4	6.4	6.4	6.2	8.9
Household operations	1.8	1.4	1.8	1.8	1.6
Housekeeping supplies	1.3	1.3	1.3	1.3	1.3
Household furnishings and equipment	4.1	3.6	4.1	4.1	3.6
Apparel and services	4.7	6.3	4.6	4.4	6.9
Transportation	19.0	20.6	18.8	18.8	18.9
Vehicle purchases (net outlay)	8.9	10.2	8.8	8.8	8.9
Gasoline and motor oil	2.9	3.4	2.8	2.8	2.8
Other vehicle expenses	6.1	6.0	6.1	6.1	6.3
Public transportation	1.1	1.0	1.1	1.1	1.0
Health care	5.3	3.4	5.5	5.6	4.1
Entertainment	5.1	3.8	5.2	5.4	3.4
Personal care products and services	1.1	1.2	1.1	1.1	1.5
Reading	.4	.2	.4	.5	.3
Education	1.7	1.1	1.8	1.8	1.4
Tobacco products and smoking supplies	.8	.5	.8	.8	.8
Miscellaneous	2.3	1.9	2.4	2.4	2.1
Cash contributions	3.2	2.1	3.3	3.4	2.1
Personal insurance and pensions	9.3	8.2	9.4	9.5	7.8
Life and other personal insurance	1.1	.6	1.1	1.1	1.2
Pensions and Social Security	8.2	7.7	8.3	8.4	6.6

[1] Components of income and taxes are derived from "complete income reporters" only: see glossary.

Table 42. **Number of earners in families by type of family, selected years, 1989-99**

(In thousands)

Characteristic	1989	1993	1994	1995	1996	1997	1998	1999
Total, all families	66,623	69,211	69,971	70,174	70,840	71,443	72,056	72,574
Married-couple families	52,385	53,246	53,927	53,621	53,654	54,361	54,829	55,352
No earners	6,812	7,280	7,227	7,278	7,148	7,289	7,257	7,163
One earner	11,748	11,842	11,772	11,739	11,556	11,728	12,279	12,328
Husband	9,212	8,745	8,719	8,821	8,671	8,792	9,198	9,093
Wife	1,840	2,411	2,372	2,253	2,214	2,302	2,419	2,595
Other family member	695	687	681	664	671	634	662	640
Two earners	26,011	26,957	27,472	27,361	27,474	27,935	27,801	28,254
Husband and wife	23,929	24,806	25,377	25,478	25,536	25,959	25,928	26,401
Husband and other family member	1,657	1,540	1,533	1,365	1,443	1,412	1,288	1,307
Husband is not an earner	425	612	562	518	496	564	586	546
Three earners or more	7,815	7,166	7,455	7,243	7,476	7,409	7,492	7,607
Husband and wife	6,950	6,496	6,748	6,582	6,870	6,805	6,883	6,959
Husband is an earner, not wife	716	511	516	514	456	441	438	509
Families maintained by women[1]	11,309	12,974	12,768	12,998	13,269	13,112	13,198	13,148
No earner	2,510	3,111	2,855	2,679	2,586	2,342	2,156	1,889
One earner	5,530	6,495	6,581	6,868	7,112	7,146	7,433	7,515
Householder	4,468	5,367	5,495	5,657	5,906	5,903	6,253	6,207
Other family member	1,063	1,128	1,086	1,211	1,205	1,243	1,180	1,308
Two earners or more	3,268	3,368	3,332	3,452	3,572	3,623	3,609	3,744
Householder and other family member(s)	2,903	3,049	3,044	3,156	3,341	3,332	3,313	3,420
Householder is not an earner	365	319	289	296	230	291	296	324
Families maintained by men[1]	2,929	2,992	3,276	3,555	3,916	3,970	4,030	4,074
No earner	281	332	382	357	359	346	387	377
One earner	1,376	1,615	1,705	1,821	1,982	2,106	2,039	2,076
Householder	1,127	1,372	1,437	1,568	1,683	1,806	1,751	1,758
Other family member	249	242	268	253	298	301	288	318
Two earners or more	1,272	1,045	1,189	1,377	1,576	1,518	1,604	1,621
Householder and other family member(s)	1,201	983	1,118	1,278	1,454	1,413	1,506	1,481
Householder is not an earner	72	63	71	98	122	105	99	139

[1] Families maintained by widowed, divorced, separated, or single persons.

NOTE: Data on the number and type of families are collected in March of the subsequent year. Earner status refers to the preceding calendar year. The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

Table 43. **Percent of employees participating in selected benefits, full- and part-time private and public sectors, 1996-98**[1]

Leave benefit	All employees	Private sector		Public sector	
		Full-time	Part-time	Full-time	Part-time
Paid leave					
Holidays	72	85	29	73	31
Vacations	76	91	35	67	19
Personal leave	18	17	6	38	18
Funeral leave	57	66	22	65	38
Jury duty leave	67	73	28	95	50
Military leave	33	32	7	76	28
Sick leave[2]	51	53	13	96	43
Unpaid family leave	64	67[3]	32[3]	95	56
Short-term disability plans[2]	34	42[3]	15	20	9
Long-term disability insurance	27	32	2	34	7
Medical care	61	70	11	86	37
Dental care	39	45[3]	8[3]	60	31
Life insurance	64	74	11	89	42
All retirement[4]	59	62	20	98	62
Defined benefit pension	35	32	8	90	59
Defined contribution[5]	36	47	15	14	5
Types of plans:					
Savings and thrift	23	31	7	5	1
Deferred profit sharing	10	13	6	-	-
Employee stock ownership	2	3	1	-	-
Money purchase pension	6	6	2	10	4

[1] Data for public sector employees are for 1998, data for private sector small establishments (fewer than 100 employees) are for 1996, and data for private sector medium and large establishments are for 1997.

[2] Sick leave is limited to annual benefits. Per disability sick leave plans are now reported along with sickness and accident insurance as short-term disability plans.

[3] Private sector data have been revised since 1999 publication.

[4] Includes defined benefit plans and defined contribution plans. Some employees participated in both types of plans.

[5] Includes other types of defined contribution plans not shown separately. Sums of individual items may not equal totals because employees may be enrolled in more than one type of plan.

NOTE: Dashes indicate no employees in this category.

Table 44. **Full-time employees[1] participating in selected retirement benefit programs by industry sector and size of establishment, 1996-98**

(In percent, unless otherwise indicated.)

Benefit	Civilian workforce	Private sector			State and local governments
		Total	Small establishments	Medium and large establishments	
Total (thousands)	92,576	78,225	39,816	38,409	14,351
All retirement plans[2]	68	62	46	79	98
Defined benefit pension	41	32	15	50	90
Defined contribution	42	47	38	57	14
Savings and thrift	27	31	23	39	5
Deferred profit-sharing	11	13	12	13	-
Employee stock ownership	2	3	1	4[3]	-
Money purchase pension	6	6	4	8	10
Simplified employee pension	([4])	1	1	-	([4])
Deferred earnings arrangements:					
With employer contributions	31[5]	35	24	46	13
Salary reduction	29	34	24	44	6
Savings and thrift	25	29	21	38	4
Without employer contributions	9	6	4	9	22

[1] Small private establishments include those employing less than 100 workers, data are from 1996; medium and large private establishments include those employing 100 workers or more, data are from 1997; and State and local governments, data are from 1998.

[2] Includes defined benefit pension plans and defined contribution retirement plans. Some employees participated in both types of plans.

[3] Private sector data have been revised since 1999 publication.

[4] Less than 0.5 percent.

[5] Includes other deferred earnings arrangements not shown separately.

NOTE: Dash indicates no employees in this category.

Table 45. **Percent of employees eligible for selected benefits, full- and part-time, private and public sectors, 1996-98[1]**

Benefit	All employees	Private sector		Public sector	
		Full-time	Part-time	Full-time	Part-time
Section 125 cafeteria benefits plans[2]	34	37	8	55	24
Full flexible benefits programs	7	8	2	5	3
Severance pay	22	25	5	29	16
Supplemental unemployment benefits	2	2	([3])	([3])	-
Employer assistance for child care	5	5	4	7	7
Long-term care insurance	5	4	1	11	15
Wellness programs	21	22	10	35	27
Employee assistance programs	38	37	18	70	43
Job-related travel accident insurance	21	27	9	12	7
Nonproduction bonuses	37	43	23	33	7
Job-related educational assistance	47	52	20	63	39
Non-job-related educational assistance	12	13	3	22	16

[1] Data for public sector employees are for 1998, data for private sector small establishments (fewer than 100 employees) are for 1996, and data for private sector medium and large establishments are for 1997.

[2] Includes all plans under Internal Revenue Code Section 125.

[3] Less than 0.5 percent.

NOTE: Dashes indicate no employees in this category.

Table 46. **Precent of employees participating in selected benefits, full-time, by geographical region, 1996-98**[1]

Benefit	Northeast	South	North Central	West
Paid leave:				
Holidays	88	82	84	78
Vacations	89	88	87	84
Personal leave	36	14	22	13
Funeral leave	76	61	70	55
Jury duty leave	87	77	79	60
Military leave	45	40	40	30
Family leave	3	2	3	1
Unpaid leave:				
Unpaid family leave	81	72	73	70
Disability benefits:[2]				
Paid-sick leave	69	58	55	58
Short-term disability	64	30	40	23
Long-term disability insurance	30	32	36	33
Survivor benefits:				
Life insurance	77	77	80	69
Accidental death and dismemberment	56	60	62	52
Survivor income benefits	1	2	6	2
Health care benefits:				
Medical care	74	71	74	72
Dental care	52	38	48	56
Vision care	27	15	22	32
Outpatient prescription drug coverage	69	66	70	67
Retirement income benefits:				
All retirement	72	66	68	65
Defined benefit	48	37	43	38
Defined contribution[3]	42	43	41	42
Savings and thrift	25	28	25	29
Deferred profit sharing	10	9	14	11
Employee stock ownership	2	3	2	3
Money purchase pension	9	6	6	4
Cash or deferred arrangements:				
With employer contributions	31	32	31	32
Salary reduction[4]	29	29	27	31
Savings and thrift	25	26	23	28
Deferral of profit sharing allocation	1	1	3	1
No employer contributions	9	7	10	10

[1] Data for State and local government employees are from the 1998 survey; data for private sector small establishments (fewer than 100 employees) are from the 1996 survey; and data for private sector medium and large establishments (100 employees or greater) are from the 1997 survey.

[2] Sick leave is limited to annual benefits. Per disability sick leave plans are now reported along with sickness and accident insurance as short-term disability plans.

[3] Includes other types of defined contribution plans not shown separately. Sums of individual items may not equal totals, because employees may be enrolled in more than one type of plan.

[4] Includes other types of salary reduction plans not shown separately.

NOTE: The Northeast region consists of Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont. The South region consists of Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia. The North Central region consists of Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin. The West region consists of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Table 47. **Number and percent of full-time employees[1] participating in defined benefit pension plans with selected age and service requirements for normal retirement[2], 1997-98**

Age and service requirement	Private sector		State and local governments	
	Number (thousands)	Percent	Number (thousands)	Percent
Employees with a defined benefit pension plan	19,202	100	12,983	100
Any age	889	5	5,296	41
Less than 30 years of service	3	([3])	944	7
30 years of service	816	4	3,565	27
More than 30 years of service	70	([3])	786	6
Age 55	1,149	6	2,630	20
Less than 30 years of service	644	3	1,358	10
30 years of service	465	2	1,243	10
More than 30 years of service	40	([3])	28	([3])
Age 60	1,741	9	1,313	10
Less than 5 years of service	559	3	68	1
5 and less than 10 years of service	197	1	786	6
10 and less than 25 years of service	558	3	330	3
25 and less than 30 years of service	94	([3])	118	1
30 years of service	332	2	10	([3])
More than 30 years of service	-	-	-	-
Age 62	4,327	23	472	4
Less than 5 years of service	651	3	5	([3])
5 and less than 10 years of service	676	3	39	([3])
10 and less than 25 years of service	2,730	14	376	3
25 and less than 30 years of service	128	1	10	([3])
30 years of service	141	1	42	([3])
More than 30 years of service	-	-	-	-
Age 65	9,299	48	1,229	9
Less than 5 years of service	5,738	30	467	4
5 and less than 10 years of service	2,916	15	324	2
10 years of service	556	3	439	3
More than 10 years of service	89	([3])	-	-
Age plus service equals[4]	1,520	8	1,718	13
Less than 80	347	2	34	([3])
80	230	1	436	3
81 to 89	886	5	664	5
90	57	([3])	584	4
More than 90	-	-	-	-

[1] Data are for private establishments with 100 or more workers, 1997; and State and local governments, 1998.

[2] Normal retirement is defined as the point at which the participant could retire and immediately receive all accrued benefits by virtue of service and earnings, without reduction due to age. If a plan had alternative age and service requirements, the earliest age and associated service were tablulated; if one alternative did not specify an age, it was the requirement tabulated.

[3] Less than 500 employees or less than 0.5 percent.

[4] In some plans, participants must also satisfy a minimum age or service requirement.

NOTE: Dash indicates no employees in this category.

Table 48. **Number and percent distribution of fatal occupational injuries by event or exposure, 1998-99**

Event or exposure[1]	Fatalities			
	1998		1999	
	Number	Percent	Number	Percent
Total	6,055	100	6,023	100
Transportation incidents	2,645	44	2,613	43
Highway	1,442	24	1,491	25
Collision between vehicles, mobile equipment	707	12	711	12
Moving in same direction	120	2	129	2
Moving in opposite directions, oncoming	272	4	269	4
Moving in intersection	143	2	160	3
Vehicle struck stationary object or equipment	307	5	334	6
Noncollision	375	6	388	6
Jack-knifed or overturned--no collision	302	5	321	5
Nonhighway (farm, industrial premises)	388	6	353	6
Noncollision accident	332	5	306	5
Fell from and struck by vehicle, mobile equipment	70	1	58	1
Overturned	217	4	206	3
Aircraft	224	4	227	4
Worker struck by a vehicle	413	7	377	6
Worker struck by vehicle, mobile equipment in roadway	131	2	137	2
Worker struck by vehicle, mobile equipment on side of road	66	1	65	1
Worker struck by vehicle, mobile equipment in parking lot or non-road area	199	3	165	3
Water vehicle	112	2	102	2
Railway	60	1	56	1
Collision between railway vehicle and other vehicle	48	1	42	1
Assaults and violent acts	962	16	893	15
Homicides	714	12	645	11
Shooting	574	9	506	8
Stabbing	61	1	60	1
Self-inflicted injury	221	4	208	3
Contact with objects and equipment	944	16	1,029	17
Struck by object	520	9	585	10
Struck by falling object	319	5	358	6
Struck by flying object	59	1	55	1
Struck by rolling, sliding objects on floor or ground level	75	1	97	2
Caught in or compressed by equipment or objects	266	4	302	5
Caught in running equipment or machinery	129	2	163	3
Caught in or crushed in collapsing materials	140	2	128	2
Falls	706	12	717	12
Fall to lower level	625	10	634	11
Fall from ladder	111	2	96	2
Fall from roof	157	3	153	3
Fall from scaffold, staging	98	2	92	2
Fall on same level	51	1	66	1
Exposure to harmful substances or environments	576	10	529	9
Contact with electric current	334	6	278	5
Contact with electric current of machine, tool, appliance, light fixture	51	1	51	1
Contact with wiring, transformers, or other electrical component	84	1	75	1
Contact with overhead power lines	153	3	124	2
Contact with temperature extremes	48	1	50	1
Exposure to caustic, noxious, or allergenic substances	105	2	106	2
Inhalation of substance	48	1	55	1
Oxygen deficiency	87	1	93	2
Drowning, submersion	75	1	75	1
Fires and explosions	206	3	216	4
Fires--unintended or uncontrolled	117	2	115	2
Explosion	89	1	99	2
Other events or exposures[2]	16	([3])	26	([3])

[1] Based on the 1992 BLS *Occupational Injury and Illness Classification Manual*.

[2] Includes the category "Bodily reaction and exertion."

[3] Less than 0.5 percent.

NOTE: Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

Table 49. **Number, percent and rate of fatal occupational injuries for selected occupations, 1998-99**

Occupation[1]	1998			1999		
	Number	Percent	Fatality rate per 100,000 workers[2]	Number	Percent	Fatality rate per 100,000 workers[2]
Total	6,055	100	4.5	6,023	100	4.5
Managerial and professional specialty	642	11	1.6	597	10	1.5
Executive, administrative, and managerial	410	7	2.1	371	6	1.9
Professional specialty	232	4	1.2	226	4	1.1
Technical, sales, and administrative support	679	11	1.8	610	10	1.6
Technicians and related support occupations	167	3	3.9	158	3	3.6
Airplane pilots and navigators	91	2	80.5	94	2	65.7
Sales occupations	398	7	2.5	356	6	2.2
Supervisors and proprietors, sales occupations	186	3	3.9	140	2	2.9
Sales workers, retail and personal services	153	3	2.2	144	2	2.1
Administrative support occupations, including clerical	114	2	.6	96	2	.5
Service occupations	441	7	2.4	468	8	2.6
Protective service occupations	259	4	10.6	261	4	10.7
Police and detectives, including supervisors	138	2	11.6	132	2	11.0
Guards, including supervisors	76	1	7.9	72	1	7.5
Farming, forestry, and fishing	930	15	25.5	897	15	26.2
Farming occupations	600	10	28.6	557	9	30.0
Farmers, except horticultural	281	5	29.5	233	4	25.9
Managers, farms, except horticultural	81	1	45.9	118	2	80.8
Farm workers	221	4	23.6	199	3	26.3
Related agricultural occupations	123	2	9.6	124	2	9.6
Forestry and logging occupations	119	2	129.7	122	2	114.0
Timber cutting and logging occupations	90	1	148.3	102	2	154.5
Fishers, hunters, and trappers	72	1	134.0	78	1	156.0
Fishers, including vessel captains and officers	71	1	137.3	78	1	162.5
Precision production, craft, and repair	1,090	18	7.5	1,142	19	7.8
Mechanics and repairers	287	5	6.0	353	6	7.3
Construction trades	633	10	11.3	633	11	10.9
Carpenters and apprentices	91	2	6.7	103	2	7.4
Electricians and apprentices	124	2	15.4	105	2	12.6
Roofers	50	1	20.7	59	1	27.6
Structural metal workers	52	1	82.5	43	1	60.6
Operators, fabricators, and laborers	2,155	36	11.8	2,194	36	12.1
Machine operators, assemblers, and inspectors	221	4	2.8	216	4	2.9
Transportation and material moving occupations	1,260	21	23.4	1,320	22	23.9
Motor vehicle operators	1,023	17	25.1	1,063	18	25.3
Truck drivers	882	15	29.2	898	15	28.8
Taxicab drivers and chauffeurs	82	1	30.0	74	1	27.3
Material moving equipment operators	197	3	17.5	205	3	17.8
Handlers, equipment cleaners, helpers, and laborers	674	11	13.2	658	11	12.5
Construction laborers	335	6	40.7	341	6	37.1
Laborers, except construction	193	3	14.7	193	3	15.0
Military occupations[3]	88	1	7.2	80	1	6.8

[1] Based on the 1990 Occupational Classification System developed by the Bureau of the Census.

[2] The rate represents the number of fatal occupational injuries per 100,000 employed workers and was calculated as follows: (N/W) x 100,000, where N = the number of fatal work injuries, and W = the number of employed workers based on Current Population Survey and Bureau of the Census figures. Workers under the age of 16 years were not included in the rate calculations so consistency with the CPS employment figures could be maintained.

[3] Resident armed forces.

NOTE: Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

Table 50. **Number, percent, and rate of fatal occupational injuries by industry, 1998-99**

Industry[1]	SIC code[1]	1998			1999		
		Number	Percent	Fatality rate per 100,000 workers[2]	Number	Percent	Fatality rate per 100,000 workers[2]
Total		6,055	100	4.5	6,023	100	4.5
Private industry		5,457	90	4.8	5,461	91	4.8
Agriculture, forestry and fishing		840	14	23.3	807	13	24.1
Agricultural production - crops	01	380	6	35.6	350	6	36.6
Agricultural production - livestock	02	174	3	15.3	163	3	16.4
Agricultural services	07	170	3	13.3	164	3	12.5
Mining		147	2	23.6	121	2	21.5
Oil and gas extraction	13	76	1	20.4	50	1	15.2
Construction		1,174	19	14.5	1,190	20	14.0
General building contractors	15	213	4	-	183	3	-
Heavy construction, except building	16	272	4	-	280	5	-
Special trades contractors	17	680	11	-	709	12	-
Manufacturing		698	12	3.3	719	12	3.6
Food and kindred products	20	72	1	4.3	83	1	5.1
Lumber and wood products	24	172	3	19.7	190	3	23.1
Transportation and public utilities		911	15	11.8	1,006	17	12.7
Local and interurban passenger transportation	41	85	1	15.4	102	2	17.2
Trucking and warehousing	42	564	9	21.8	605	10	22.6
Transportation by air	45	74	1	8.9	74	1	8.6
Electric, gas, and sanitary services	49	83	1	7.8	86	1	8.4
Wholesale trade		229	4	4.5	237	4	4.6
Durable goods	50	138	2	5.0	132	2	4.7
Nondurable goods	51	91	2	3.9	105	2	4.5
Retail trade		570	9	2.6	507	8	2.3
Food stores	54	135	2	3.7	115	2	3.3
Automotive dealers and service stations	55	120	2	5.4	82	1	3.7
Eating and drinking places	58	107	2	1.6	145	2	2.2
Finance, insurance, and real estate		92	2	1.1	105	2	1.2
Services		763	13	2.0	732	12	1.9
Automotive repair, services, and parking	75	133	2	8.6	132	2	8.4
Government[3]		598	10	3.0	562	9	2.8
Federal		162	3	3.7	147	2	3.3
State		136	2	2.6	108	2	2.1
Local		296	5	3.0	301	5	2.9

[1] Classified according to the *Standard Industrial Classification Manual, 1987*.

[2] The rate represents the number of fatal occupational injuries per 100,000 employed workers and was calculated as follows: (N/W) x 100,000, where N = the number of fatal work injuries, and W = the number of employed workers based on Current Population Survey and Bureau of the Census figures. Workers under the age of 16 years were not included in the rate calculations so consistency with the CPS employment figures could be maintained.

[3] Includes fatalities to workers employed by governmental organizations regardless of industry.

NOTE: Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

Table 51. **Number, percent, and rate of fatal occupational injures by selected worker characteristics, 1998-99**

Characteristics	1998			1999		
	Number	Percent	Fatality rate per 100,000 workers[1]	Number	Percent	Fatality rate per 100,000 workers[1]
Total	6,055	100	4.5	6,023	100	4.5
Employee status						
Wage and salary workers[2]	4,804	79	3.9	4,884	81	3.9
Self-employed[3]	1,251	21	11.7	1,139	19	11.1
Sex						
Men	5,569	92	7.7	5,582	93	7.7
Women	486	8	.8	441	7	.7
Age						
Under 16 years	33	1	-	26	([4])	-
16 to 17 years	32	1	1.2	46	1	1.6
18 to 19 years	137	2	3.1	122	2	2.7
20 to 24 years	421	7	3.2	450	7	3.4
25 to 34 years	1,238	20	3.9	1,171	19	3.7
35 to 44 years	1,525	25	4.2	1,499	25	4.1
45 to 54 years	1,279	21	4.6	1,326	22	4.6
55 to 64 years	836	14	6.5	814	14	6.1
65 and over	541	9	14.3	559	9	14.4
Race						
White	5,041	83	4.5	4,990	83	4.4
Black or African American	594	10	4.0	626	10	4.1
American Indian or Alaskan Native	29	([4])	-	57	1	-
Asian, Native Hawaiian or Pacific Islander	264	4	-	191	3	-
Other or not reported	127	2	-	159	3	-
Hispanic origin						
Hispanic[5]	707	12	5.2	725	12	5.2

[1] The rate represents the number of fatal occupational injuries per 100,000 employed workers and was calculated as follows: (N/W) x 100,000, where N = the number of fatal work injuries, and W = the number of employed workers based on Current Population Survey and Bureau of the Census figures. Workers under the age of 16 years were not included in the rate calculations so consistency with the CPS employment figures could be maintained.

[2] May include volunteers and other workers receiving compensation.

[3] Includes paid and unpaid family workers, and may include owners of incorporated businesses, or members of partnerships.

[4] Less than 0.5 percent.

[5] Persons identified as Hispanic may be of any race.

NOTE: Totals for major categories may include subcategories not shown separately. Dashes indicate no data reported or data that do not meet publication criteria.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics, in cooperation with State and Federal agencies, Census of Fatal Occupational Injuries

Table 52. **Number of nonfatal occupational injuries and illnesses involving days away from work[1] by selected occupation and industry division, 1999**

(thousands)

Occupation	Private industry[2]	Goods producing				Service producing				
		Agriculture, forestry, and fishing[2]	Mining[3]	Construction	Manufacturing	Transportation and public utilities[3]	Wholesale trade	Retail trade	Finance, insurance, and real estate	Services
Total	1,702.5	34.9	11.3	193.8	403.6	196.7	136.1	291.6	39.5	394.9
Truck drivers	141.1	1.1	.8	7.3	12.1	61.9	26.2	14.6	.5	16.5
Laborers, nonconstruction	89.1	.5	1.3	–	29.0	7.1	25.7	14.2	.8	10.5
Nursing aides, orderlies	75.7	–	–	–	–	–	–	–	.4	75.3
Construction laborers	46.5	–	–	45.5	.4	.3	–	.1	.1	.1
Janitors and cleaners	43.4	.4	(4)	.3	6.1	1.2	1.0	5.3	4.6	24.4
Assemblers	40.0	.1	–	.6	34.9	.7	1.8	1.1	–	.8
Carpenters	35.0	–	(4)	27.3	3.2	.3	.5	1.8	.4	1.4
Cooks	28.0	–	–	–	.3	.2	.1	19.2	.2	8.0
Stock handlers and baggers	27.3	(4)	(4)	.1	1.6	.3	2.4	22.7	–	.2
Registered nurses	25.7	–	–	–	(4)	.1	–	–	.2	25.3
Supervisors and proprietors	25.4	–	–	.1	.5	.1	3.2	19.5	.5	1.6
Miscellaneous food preparation	24.9	–	–	–	.1	–	.1	18.6	.1	5.9
Welders and cutters	24.7	(4)	.2	1.8	18.9	.7	2.3	–	(4)	.7
Cashiers	22.8	.1	–	–	(4)	.1	.4	20.8	(4)	1.4
Sales workers, other commodities	21.9	.1	–	.1	.3	.2	2.0	17.5	.1	1.6
Maids and housemen	21.4	–	(4)	–	.1	(4)	–	–	.7	20.5
Groundskeepers and gardeners, except farm	18.9	9.0	–	.3	.2	.2	.1	.5	2.8	5.6
Electricians	17.9	–	.3	13.6	2.2	.3	.2	.2	.1	1.1
Shipping and receiving clerks	16.6	–	–	.1	5.2	3.9	3.0	3.8	(4)	.6
Mechanics, automobile	16.5	.1	–	–	.2	.3	1.1	10.8	–	4.1
Driver-sales workers	14.5	–	–	–	3.6	.7	6.3	2.7	–	1.2
Kitchen workers	14.1	–	–	–	.1	–	–	11.4	–	2.6
Industrial truck operators	13.9	.3	.5	.6	6.1	1.8	3.3	.9	–	.3
Waiters and waitresses	13.2	–	–	–	(4)	(4)	–	9.4	.1	3.6
Plumbers and pipefitters	12.4	–	–	9.7	1.1	.4	.3	–	(4)	.8
Repairers, industrial machinery	11.9	–	1.1	.1	8.9	.5	.6	.2	–	.5
Licensed practical nurses	11.7	–	–	–	–	–	–	–	(4)	11.6
Mechanics, bus, truck, stationary engine	11.6	.1	(4)	.3	.7	4.8	2.3	1.3	–	2.1
Farm workers	11.5	10.5	–	–	.4	–	.4	–	–	.2
Packaging, filling machine operators	11.5	–	–	–	10.3	–	.8	–	–	.3
Stock and inventory clerks	11.4	(4)	–	.2	2.2	.6	1.2	4.8	.1	2.3
Supervisors, production workers	10.7	–	.1	–	8.2	.4	.6	.5	.2	.8
Health aides, except nursing	10.1	–	–	–	–	.1	–	–	–	9.9
Hand packers and packagers	9.8	.3	–	–	4.7	.4	2.2	1.6	–	.5
Butchers and meat cutters	9.8	.1	–	–	2.6	–	.4	6.5	–	(4)
Guards and police, except public	9.1	–	(4)	–	.3	.5	.1	.8	.4	7.0
Attendants, public transportation	9.0	–	–	–	–	9.0	–	–	–	–
Heating, air conditioning, and refrigeration mechanics	8.9	–	–	5.8	.2	.4	.7	.5	.2	1.1
Machinists	8.7	–	(4)	.1	7.8	(4)	.3	–	–	.5
Helpers, construction trades	8.7	–	–	8.3	.1	–	.1	.1	–	–

[1] Days-away-from-work cases include those which result in days away from work with or without restricted work activity.

[2] Excludes farms with fewer than 11 employees.

[3] Data conforming to OSHA definitions for mining operators in coal, metal, and nonmetal mining and for employers in railroad transportation are provided to BLS by the Mine Safety and Health Administration, U.S. Department of Labor, and by the Federal Railroad Administration, U.S. Department of Transportation. Independent mining contractors are excluded from the coal, metal, and nonmetal industries.

[4] Fewer than 50 cases.

NOTE: Dashes indicate data that are not available. Because of rounding and nonclassifiable responses, data may not sum to the totals.The n.e.c. abbreviation means that the category includes those components not elsewhere classified.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics

Table 53. **Percent distribution of nonfatal occupational injuries and illnesses involving days away from work[1] by selected worker characteristics and number of days away from work, 1999**

Characteristic	Total cases	Percent of days-away-from-work cases involving —							Median days away from work
		1 day	2 days	3 - 5 days	6 - 10 days	11 - 20 days	21 - 30 days	31 days or more	
Total [1,702,470 cases]	100.0	16.0	12.9	20.5	13.3	11.4	6.3	19.6	6
Sex:									
Male	100.0	16.1	12.6	20.2	13.5	11.5	6.5	19.6	6
Female	100.0	16.0	13.4	21.2	12.9	11.0	6.0	19.6	5
Age:[2]									
14 - 15	100.0	51.4	4.6	14.8	6.8	6.6	1.3	14.5	1
16 - 19	100.0	23.5	16.7	23.2	14.5	10.3	4.5	7.2	3
20 - 24	100.0	21.2	15.2	24.8	13.3	10.4	4.8	10.3	4
25 - 34	100.0	17.4	14.3	21.9	13.3	11.0	5.7	16.5	5
35 - 44	100.0	15.2	12.1	19.8	13.6	11.5	6.6	21.3	6
45 - 54	100.0	13.1	10.9	18.6	13.3	11.9	7.1	25.0	8
55 - 64	100.0	11.7	10.0	16.4	12.6	12.9	7.5	28.9	10
65 and over	100.0	11.1	10.5	15.6	11.8	14.8	9.2	26.9	11
Occupation:									
Managerial and professional specialty	100.0	16.7	15.9	22.3	13.3	11.5	4.7	15.5	5
Technical, sales, and administrative support	100.0	16.4	13.4	21.6	12.1	11.4	6.2	18.8	5
Service	100.0	16.0	13.9	23.2	14.1	10.7	5.1	17.0	5
Farming, forestry, and fishing	100.0	13.5	12.9	21.1	13.5	10.3	7.9	20.8	6
Precision production, craft, and repair	100.0	15.9	11.7	18.7	13.2	11.4	6.9	22.2	7
Operators, fabricators, and laborers	100.0	16.0	12.4	19.5	13.4	11.6	6.7	20.4	6
Length of service with employer:									
Less than 3 months	100.0	17.9	14.5	22.0	13.0	10.6	5.4	16.5	5
3 - 11 months	100.0	17.0	14.0	22.5	13.7	10.5	5.2	17.0	5
1 - 5 years	100.0	16.6	13.1	20.6	13.2	10.8	6.2	19.3	5
More than 5 years	100.0	14.1	11.3	18.4	13.0	12.7	7.6	22.9	8
Race or ethnic origin:									
White, non-Hispanic	100.0	16.7	13.3	20.5	13.2	11.2	6.2	18.8	5
Black, non-Hispanic	100.0	15.4	12.7	21.5	13.5	11.1	6.0	19.8	6
Hispanic	100.0	14.1	11.8	20.2	13.0	12.0	7.0	21.8	7
Asian or Pacific Islander	100.0	13.0	12.9	23.1	13.8	11.7	6.6	19.0	6
American Indian or Alaskan Native	100.0	15.4	10.5	26.7	15.5	10.3	4.1	15.4	5

[1] Days-away-from-work cases include those which result in days away from work with or without restricted work activity.

[2] Information is not shown separately for injured workers under age 14; they accounted for fewer than 50 cases.

NOTE: Because of rounding and nonclassifiable responses, percentages may not add to 100.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics

Table 54. **Incidence rates and number of cases of nonfatal occupational injuries and illnesses for private industry by selected case types, 1973-99**

Year[1]	Incidence rate[2]				Number (in thousands)			
	Total cases	Lost workday cases		Cases without lost workdays	Total cases	Lost workday cases		Cases without lost workdays
		Total[3]	With days away from work[4]			Total[3]	With days away from work[4]	
1973	11.0	3.4	–	7.5	6,078.7	1,908.0	–	4,165.0
1974	10.4	3.5	–	6.9	5,915.8	2,001.8	–	3,908.1
1975	9.1	3.3	3.2	5.8	4,983.1	1,825.2	1,730.5	3,152.6
1976	9.2	3.5	3.3	5.7	5,163.7	1,978.8	1,875.4	3,180.4
1977	9.3	3.8	3.6	5.5	5,460.3	2,203.6	2,092.1	3,250.6
1978[5]	9.4	4.1	3.8	5.3	5,799.4	2,492.0	2,327.5	3,302.0
1979[5]	9.5	4.3	4.0	5.2	6,105.7	2,757.7	2,553.5	3,342.3
1980	8.7	4.0	3.7	4.7	5,605.8	2,539.9	2,353.8	3,060.4
1981	8.3	3.8	3.5	4.5	5,404.4	2,457.5	2,269.2	2,941.8
1982	7.7	3.5	3.2	4.2	4,856.4	2,182.4	2,016.2	2,668.6
1983[5]	7.6	3.4	3.2	4.2	4,854.1	2,182.7	2,014.2	2,667.6
1984[5]	8.0	3.7	3.4	4.3	5,419.7	2,501.5	2,303.7	2,913.4
1985	7.9	3.6	3.3	4.3	5,507.2	2,537.0	2,319.2	2,965.9
1986	7.9	3.6	3.3	4.3	5,629.0	2,590.3	2,356.9	3,034.6
1987	8.3	3.8	3.4	4.4	6,035.9	2,801.6	2,483.9	3,230.6
1988	8.6	4.0	3.5	4.6	6,440.4	2,977.8	2,483.9	3,458.7
1989	8.6	4.0	3.4	4.6	6,576.3	3,073.9	2,624.2	3,497.9
1990	8.8	4.1	3.4	4.7	6,753.0	3,123.8	2,613.5	3,625.6
1991	8.4	3.9	3.2	4.5	6,345.7	2,944.2	2,398.4	3,398.3
1992[6]	8.9	3.9	3.0	5.0	6,799.4	2,953.4	2,331.1	3,846.0
1993[6]	8.5	3.8	2.9	4.8	6,737.4	2,967.4	2,252.5	3,770.0
1994[6]	8.4	3.8	2.8	4.6	6,766.9	3,061.0	2,236.6	3,705.9
1995[6]	8.1	3.6	2.5	4.4	6,575.4	2,972.1	2,040.9	3,603.2
1996[6]	7.4	3.4	2.2	4.1	6,238.9	2,832.5	1,880.6	3,406.4
1997[6]	7.1	3.3	2.1	3.8	6,145.6	2,866.2	1,833.4	3,279.4
1998[6]	6.7	3.1	2.0	3.5	5,922.8	2,780.7	1,730.5	3,142.1
1999[6]	6.3	3.0	1.9	3.3	5,707.2	2,742.8	1,702.5	2,964.5

[1] Data for 1973-75 are based on the *Standard Industrial Classification Manual*, 1967 Edition; data for 1976-87 are based on the *Standard Industrial Classification Manual*, 1972 Edition; and data for 1988-99 are based on the *Standard Industrial Classification Manual*, 1987 Edition. The recordkeeping guidelines for occupational injuries and illnesses were revised in 1986, and the Survey of Occupational Injuries and Illnesses was redesigned in 1992.

[2] The incidence rates represent the number of injuries and illnesses per 100 full-time workers and were calculated as: (*N*/EH) x 200,000, where

N = number of injuries and illnesses
EH = total hours worked by all employees during the calendar year
200,000 = base for 100 equivalent full-time workers (working 40 hours per week, 50 weeks per year)

[3] Total lost workday cases involve days away from work, days of restricted work activity, or both.

[4] Days-away-from-work cases include those which result in days away from work with or without restricted work activity.

[5] To maintain historical comparability with the rest of the series, data for small nonfarm employers in low-risk industries who were not surveyed were imputed and included in the survey estimates.

[6] Data exclude fatal work-related injuries and illnesses.

NOTE: Because of rounding, components may not add to the totals. Data for 1976-99 exclude farms with fewer than 11 employees.

SOURCE: U.S. Department of Labor, Bureau of Labor Statistics

Table 55. Unemployment for selected demographic groups, annual averages, 1948-2000

(In thousands)

Year	Total unemployed	Men			Women			White	Black	Married men, spouse present	Women who maintain families
		Total	16 to 19 years	20 years and over	Total	16 to 19 years	20 years and over				
1948	2,276	1,559	256	1,305	717	153	564	–	–	–	–
1949	3,637	2,572	353	2,219	1,065	223	841	–	–	–	–
1950	3,288	2,239	318	1,922	1,049	195	854	–	–	–	–
1951	2,055	1,221	191	1,029	834	145	689	–	–	–	–
1952	1,883	1,185	205	980	698	140	559	–	–	–	–
1953[1]	1,834	1,202	184	1,019	632	123	510	–	–	–	–
1954	3,532	2,344	310	2,035	1,188	191	997	2,859	–	–	–
1955	2,852	1,854	274	1,580	998	176	823	2,252	–	972	–
1956	2,750	1,711	269	1,442	1,039	209	832	2,159	–	905	–
1957	2,859	1,841	300	1,541	1,018	197	821	2,289	–	982	–
1958	4,602	3,098	416	2,681	1,504	262	1,242	3,680	–	1,799	–
1959	3,740	2,420	398	2,022	1,320	256	1,063	2,946	–	1,296	–
1960[1]	3,852	2,486	426	2,060	1,366	286	1,080	3,065	–	1,334	–
1961	4,714	2,997	479	2,518	1,717	349	1,368	3,743	–	1,676	–
1962[1]	3,911	2,423	408	2,016	1,488	313	1,175	3,052	–	1,300	–
1963	4,070	2,472	501	1,971	1,598	383	1,216	3,208	–	1,235	–
1964	3,786	2,205	487	1,718	1,581	385	1,195	2,999	–	1,039	–
1965	3,366	1,914	479	1,435	1,452	395	1,056	2,691	–	883	–
1966	2,875	1,551	432	1,120	1,324	405	921	2,255	–	706	–
1967	2,975	1,508	448	1,060	1,468	391	1,078	2,338	–	685	70
1968	2,817	1,419	426	993	1,397	412	985	2,226	–	620	124
1969	2,832	1,403	440	963	1,429	413	1,015	2,260	–	582	130
1970	4,093	2,238	599	1,638	1,855	506	1,349	3,339	–	1,002	161
1971	5,016	2,789	693	2,097	2,227	568	1,658	4,085	–	1,255	236
1972[1]	4,882	2,659	711	1,948	2,222	598	1,625	3,906	906	1,100	245
1973[1]	4,365	2,275	653	1,624	2,089	583	1,507	3,442	846	916	249
1974	5,156	2,714	757	1,957	2,441	665	1,777	4,097	965	1,087	266
1975	7,929	4,442	966	3,476	3,486	802	2,684	6,421	1,369	2,063	401
1976	7,406	4,036	939	3,098	3,369	780	2,588	5,914	1,334	1,709	428
1977	6,991	3,667	874	2,794	3,324	789	2,535	5,441	1,393	1,462	422
1978[1]	6,202	3,142	813	2,328	3,061	769	2,292	4,698	1,330	1,135	417
1979	6,137	3,120	811	2,308	3,018	743	2,276	4,664	1,319	1,134	425
1980	7,637	4,267	913	3,353	3,370	755	2,615	5,884	1,553	1,709	482
1981	8,273	4,577	962	3,615	3,696	800	2,895	6,343	1,731	1,766	579
1982	10,678	6,179	1,090	5,089	4,499	886	3,613	8,241	2,142	2,832	675
1983	10,717	6,260	1,003	5,257	4,457	825	3,632	8,128	2,272	2,634	706
1984	8,539	4,744	812	3,932	3,794	687	3,107	6,372	1,914	1,896	627
1985	8,312	4,521	806	3,715	3,791	661	3,129	6,191	1,864	1,767	651
1986[1]	8,237	4,530	779	3,751	3,707	675	3,032	6,140	1,840	1,819	632
1987	7,425	4,101	732	3,369	3,324	616	2,709	5,501	1,684	1,625	613
1988	6,701	3,655	667	2,987	3,046	558	2,487	4,944	1,547	1,360	547
1989	6,528	3,525	658	2,867	3,003	536	2,467	4,770	1,544	1,278	558
1990[1]	7,047	3,906	667	3,239	3,140	544	2,596	5,186	1,565	1,446	580
1991	8,628	4,948	751	4,195	3,683	608	3,074	6,560	1,723	1,875	663
1992	9,613	5,523	806	4,717	4,090	621	3,469	7,169	2,011	2,150	737
1993	8,940	5,055	768	4,287	3,885	597	3,288	6,655	1,844	1,899	731
1994[1]	7,996	4,367	740	3,627	3,629	580	3,049	5,892	1,666	1,592	692
1995	7,404	3,983	744	3,239	3,421	602	2,819	5,459	1,538	1,424	624
1996	7,236	3,880	733	3,146	3,356	573	2,783	5,300	1,592	1,322	658
1997[1]	6,739	3,577	694	2,882	3,162	577	2,585	4,836	1,560	1,167	684
1998[1]	6,210	3,266	686	2,580	2,944	519	2,424	4,484	1,426	1,034	612
1999[1]	5,880	3,066	633	2,433	2,814	529	2,285	4,273	1,309	990	560
2000[1]	5,655	2,954	604	2,350	2,701	489	2,212	4,099	1,269	891	522

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

Dash indicates data not available.

Table 56. **Unemployment rates for selected demographic groups, annual averages, 1948-2000**

(Percent)

Year	Total, all workers	Men			Women			White	Black	Married men, spouse present	Women who maintain families
		Total	16 to 19 years	20 years and over	Total	16 to 19 years	20 years and over				
1948	3.8	3.6	9.8	3.2	4.1	8.3	3.6	–	–	–	–
1949	5.9	5.9	14.3	5.4	6.0	12.3	5.3	–	–	–	–
1950	5.3	5.1	12.7	4.7	5.7	11.4	5.1	–	–	–	–
1951	3.3	2.8	8.1	2.5	4.4	8.3	4.0	–	–	–	–
1952	3.0	2.8	8.9	2.4	3.6	8.0	3.2	–	–	–	–
1953[1]	2.9	2.8	7.9	2.5	3.3	7.2	2.9	–	–	–	–
1954	5.5	5.3	13.5	4.9	6.0	11.4	5.5	5.0	–	–	–
1955	4.4	4.2	11.8	3.8	4.9	10.2	4.4	3.9	–	2.8	–
1956	4.1	3.8	11.1	3.4	4.8	11.2	4.2	3.8	–	2.3	–
1957	4.3	4.1	12.4	3.6	4.7	10.8	4.1	3.8	–	2.8	–
1958	6.8	6.8	17.1	6.2	6.8	14.3	6.1	6.1	–	5.1	–
1959	5.5	5.2	15.3	4.7	5.9	13.5	5.2	4.8	–	3.6	–
1960[1]	5.5	5.4	15.3	4.7	5.9	13.9	5.1	5.0	–	3.7	–
1961	6.7	6.4	17.1	5.7	7.2	16.3	6.3	6.0	–	4.6	–
1962[1]	5.5	5.2	14.7	4.6	6.2	14.6	5.4	4.9	–	3.6	–
1963	5.7	5.2	17.2	4.5	6.5	17.2	5.4	5.0	–	3.4	–
1964	5.2	4.6	15.8	3.9	6.2	16.6	5.2	4.6	–	2.8	–
1965	4.5	4.0	14.1	3.2	5.5	15.7	4.5	4.1	–	2.4	–
1966	3.8	3.2	11.7	2.5	4.8	14.1	3.8	3.4	–	1.9	–
1967	3.8	3.1	12.3	2.3	5.2	13.5	4.2	3.4	–	1.8	4.9
1968	3.6	2.9	11.6	2.2	4.8	14.0	3.8	3.2	–	1.6	4.4
1969	3.5	2.8	11.4	2.1	4.7	13.3	3.7	3.1	–	1.5	4.4
1970	4.9	4.4	15.0	3.5	5.9	15.6	4.8	4.5	–	2.6	5.4
1971	5.9	5.3	16.8	4.4	6.9	17.2	5.7	5.4	–	3.2	7.3
1972[1]	5.6	5.0	15.9	4.0	6.6	16.7	5.4	5.1	10.4	2.8	7.2
1973[1]	4.9	4.2	13.9	3.3	6.0	15.3	4.9	4.3	9.4	2.3	7.1
1974	5.6	4.9	15.6	3.8	6.7	16.6	5.5	5.0	10.5	2.7	7.0
1975	8.5	7.9	20.1	6.8	9.3	19.7	8.0	7.8	14.8	5.1	10.0
1976	7.7	7.1	19.2	5.9	8.6	18.7	7.4	7.0	14.0	4.2	10.1
1977	7.1	6.3	17.3	5.2	8.2	18.3	7.0	6.2	14.0	3.6	9.4
1978[1]	6.1	5.3	15.8	4.3	7.2	17.1	6.0	5.2	12.8	2.8	8.5
1979	5.8	5.1	15.9	4.2	6.8	16.4	5.7	5.1	12.3	2.8	8.3
1980	7.1	6.9	18.3	5.9	7.4	17.2	6.4	6.3	14.3	4.2	9.2
1981	7.6	7.4	20.1	6.3	7.9	19.0	6.8	6.7	15.6	4.3	10.4
1982	9.7	9.9	24.4	8.8	9.4	21.9	8.3	8.6	18.9	6.5	11.7
1983	9.6	9.9	23.3	8.9	9.2	21.3	8.1	8.4	19.5	6.5	12.2
1984	7.5	7.4	19.6	6.6	7.8	18.0	6.8	6.5	15.9	4.8	10.3
1985	7.2	7.0	19.5	6.2	7.4	17.8	6.6	6.2	15.1	4.3	10.4
1986[1]	7.0	6.9	19.0	6.1	7.1	17.8	6.2	6.0	14.5	4.4	9.8
1987	6.2	6.2	17.8	5.4	6.2	15.9	5.4	5.3	13.0	3.9	9.2
1988	5.5	5.5	16.0	4.8	5.6	14.4	4.9	4.7	11.7	3.3	8.1
1989	5.3	5.2	15.9	4.5	5.4	14.0	4.7	4.5	11.4	3.0	8.1
1990[1]	5.6	5.7	16.3	5.0	5.5	14.7	4.9	4.8	11.4	3.4	8.3
1991	6.8	7.2	19.8	6.4	6.4	17.5	5.7	6.1	12.5	4.4	9.3
1992	7.5	7.9	21.5	7.1	7.0	18.6	6.3	6.6	14.2	5.1	10.0
1993	6.9	7.2	20.4	6.4	6.6	17.5	5.9	6.1	13.0	4.4	9.7
1994[1]	6.1	6.2	19.0	5.4	6.0	16.2	5.4	5.3	11.5	3.7	8.9
1995	5.6	5.6	18.4	4.8	5.6	16.1	4.9	4.9	10.4	3.3	8.0
1996	5.4	5.4	18.1	4.8	5.4	15.2	4.8	4.7	10.5	3.0	8.2
1997[1]	4.9	4.9	16.9	4.2	5.0	15.0	4.4	4.2	10.0	2.7	8.1
1998[1]	4.5	4.4	16.2	3.7	4.6	12.9	4.1	3.9	8.9	2.4	7.2
1999[1]	4.2	4.1	14.7	3.5	4.3	13.2	3.8	3.7	8.0	2.2	6.4
2000[1]	4.0	3.9	14.0	3.3	4.1	12.1	3.6	3.5	7.6	2.0	5.9

[1] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

Dash indicates data not available.

Table 57. **Unemployed persons by duration and reason, annual averages, 1948-2000**

(Numbers in thousands)

Year	Total unemployed	Duration of unemployment						Reason for unemployment			
		Less than 5 weeks	5 to 14 weeks	15 to 26 weeks	27 weeks and over	Mean duration (weeks)	Median duration (weeks)	Job losers[1]	Job leavers	Reentrants	New entrants
1948	2,276	1,300	669	193	116	8.6	–	–	–	–	–
1949	3,637	1,756	1,194	428	256	10.0	–	–	–	–	–
1950	3,288	1,450	1,055	425	357	12.1	–	–	–	–	–
1951	2,055	1,177	574	166	137	9.7	–	–	–	–	–
1952	1,883	1,135	516	148	84	8.4	–	–	–	–	–
1953[2]	1,834	1,142	482	132	78	8.0	–	–	–	–	–
1954	3,532	1,605	1,116	495	317	11.8	–	–	–	–	–
1955	2,852	1,335	815	366	336	13.0	–	–	–	–	–
1956	2,750	1,412	805	301	232	11.3	–	–	–	–	–
1957	2,859	1,408	891	321	239	10.5	–	–	–	–	–
1958	4,602	1,753	1,396	785	667	13.9	–	–	–	–	–
1959	3,740	1,585	1,114	469	571	14.4	–	–	–	–	–
1960[2]	3,852	1,719	1,176	503	454	12.8	–	–	–	–	–
1961	4,714	1,806	1,376	728	804	15.6	–	–	–	–	–
1962[2]	3,911	1,663	1,134	534	585	14.7	–	–	–	–	–
1963	4,070	1,751	1,231	535	553	14.0	–	–	–	–	–
1964	3,786	1,697	1,117	491	482	13.3	–	–	–	–	–
1965	3,366	1,628	983	404	351	11.8	–	–	–	–	–
1966	2,875	1,573	779	287	239	10.4	–	–	–	–	–
1967	2,975	1,634	893	271	177	8.7	2.3	1,229	438	945	396
1968	2,817	1,594	810	256	156	8.4	4.5	1,070	431	909	407
1969	2,832	1,629	827	242	133	7.8	4.4	1,017	436	965	413
1970	4,093	2,139	1,290	428	235	8.6	4.9	1,811	550	1,228	504
1971	5,016	2,245	1,585	668	519	11.3	6.3	2,323	590	1,472	630
1972[2]	4,882	2,242	1,472	601	566	12.0	6.2	2,108	641	1,456	677
1973[2]	4,365	2,224	1,314	483	343	10.0	5.2	1,694	683	1,340	649
1974	5,156	2,604	1,597	574	381	9.8	5.2	2,242	768	1,463	681
1975	7,929	2,940	2,484	1,303	1,203	14.2	8.4	4,386	827	1,892	823
1976	7,406	2,844	2,196	1,018	1,348	15.8	8.2	3,679	903	1,928	895
1977	6,991	2,919	2,132	913	1,028	14.3	7.0	3,166	909	1,963	953
1978[2]	6,202	2,865	1,923	766	648	11.9	5.9	2,585	874	1,857	885
1979	6,137	2,950	1,946	706	535	10.8	5.4	2,635	880	1,806	817
1980	7,637	3,295	2,470	1,052	820	11.9	6.5	3,947	891	1,927	872
1981	8,273	3,449	2,539	1,122	1,162	13.7	6.9	4,267	923	2,102	981
1982	10,678	3,883	3,311	1,708	1,776	15.6	8.7	6,268	840	2,384	1,185
1983	10,717	3,570	2,937	1,652	2,559	20.0	10.1	6,258	830	2,412	1,216
1984	8,539	3,350	2,451	1,104	1,634	18.2	7.9	4,421	823	2,184	1,110
1985	8,312	3,498	2,509	1,025	1,280	15.6	6.8	4,139	877	2,256	1,039
1986[2]	8,237	3,448	2,557	1,045	1,187	15.0	6.9	4,033	1,015	2,160	1,029
1987	7,425	3,246	2,196	943	1,040	14.5	6.5	3,566	965	1,974	920
1988	6,701	3,084	2,007	801	809	13.5	5.9	3,092	983	1,809	816
1989	6,528	3,174	1,978	730	646	11.9	4.8	2,983	1,024	1,843	677
1990[2]	7,047	3,265	2,257	822	703	12.0	5.3	3,387	1,041	1,930	688
1991	8,628	3,480	2,791	1,246	1,111	13.7	6.6	4,694	1,004	2,139	792
1992	9,613	3,376	2,830	1,453	1,954	17.7	8.7	5,389	1,002	2,285	937
1993	8,940	3,262	2,584	1,297	1,798	18.0	8.3	4,848	976	2,198	919
1994[3]	7,996	2,728	2,408	1,237	1,623	18.8	9.2	3,815	791	2,786	604
1995	7,404	2,700	2,342	1,085	1,278	16.6	8.3	3,476	824	2,525	579
1996	7,236	2,633	2,287	1,053	1,262	16.7	8.3	3,370	774	2,512	580
1997[2]	6,739	2,538	2,138	995	1,067	15.8	8.0	3,037	795	2,338	569
1998[2]	6,210	2,622	1,950	763	875	14.5	6.7	2,822	734	2,132	520
1999[2]	5,880	2,568	1,832	755	725	13.4	6.4	2,622	783	2,005	469
2000[2]	5,655	2,543	1,803	685	644	12.6	5.9	2,492	775	1,957	431

[1] Beginning January 1994 includes persons who completed temporary jobs.

[2] The comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

Dash indicates data not available.

Table 58. **Unemployment rates of persons 25 to 64 years of age by educational attainment and sex, March 1970-2000**

(Percent)

Year	Less than 4 years of high school	4 years of high school, only	College	
			1 to 3 years	4 years or more
TOTAL				
1970	4.6	2.9	2.9	1.3
1971	6.4	4.0	3.7	2.0
1972[1]	5.8	3.9	3.5	2.0
1973[1]	5.4	3.3	2.9	1.7
1974	5.3	3.4	3.4	1.7
1975	10.7	6.9	5.5	2.5
1976	8.6	6.1	5.2	2.4
1977	9.0	5.6	5.0	2.8
1978[1]	7.4	4.5	3.3	2.2
1979	7.2	4.4	3.5	2.1
1980	8.4	5.1	4.3	1.9
1981	10.1	6.2	4.5	2.2
1982	12.5	8.5	6.4	3.0
1983	15.8	10.0	7.3	3.5
1984	12.1	7.2	5.3	2.7
1985	11.4	6.9	4.7	2.4
1986[1]	11.6	6.9	4.7	2.3
1987	11.1	6.3	4.5	2.3
1988	9.4	5.4	3.7	1.7
1989	8.9	4.8	3.4	2.2
1990[1]	9.6	4.9	3.7	1.9
1991	12.3	6.7	5.0	2.9
1992[1]	13.5	7.7	5.9	2.9
1993	13.0	7.3	5.5	3.2
1994[1]	12.6	6.7	5.0	2.9
1995	10.0	5.2	4.5	2.5
1996	10.9	5.5	4.1	2.2
1997[1]	10.4	5.1	3.8	2.0
1998[1]	8.5	4.8	3.6	1.8
1999[1]	7.7	4.0	3.1	1.9
2000[1]	7.9	3.8	3.0	1.5
Men				
1970	4.0	2.4	2.7	1.1
1971	6.0	3.6	3.5	1.8
1972[1]	5.4	3.6	3.1	1.9
1973[1]	5.0	2.8	2.8	1.6
1974	4.7	3.1	2.9	1.5
1975	10.5	6.7	5.1	2.2
1976	8.3	5.8	5.1	2.2
1977	8.6	5.1	4.5	2.4
1978[1]	7.1	4.2	3.1	1.9
1979	6.6	4.2	3.2	1.7
1980	8.2	5.3	4.4	1.7
1981	10.2	6.6	4.4	1.9
1982	12.7	9.3	6.8	2.9
1983	16.1	11.9	8.4	3.4
1984	12.3	8.1	5.2	2.7
1985	11.2	7.2	4.5	2.4
1986[1]	11.7	7.4	4.7	2.3
1987	11.2	6.7	5.0	2.5
1988	10.0	6.2	3.9	1.6
1989	9.4	5.4	3.2	2.3

See footnote at end of table.

Table 58. **Unemployment rates of persons 25 to 64 years of age by educational attainment and sex, March 1970-2000—Continued**

(Percent)

Year	Less than 4 years of high school	4 years of high school, only	College	
			1 to 3 years	4 years or more
Men—Continued				
1990[1]	9.6	5.3	3.9	2.1
1991	13.4	7.7	5.2	3.2
1992	14.8	8.8	6.4	3.2
1993	14.1	8.7	6.3	3.4
1994[1]	12.8	7.2	5.3	2.9
1995	10.9	5.7	4.4	2.6
1996[1]	11.0	6.4	4.5	2.3
1997[1]	9.9	5.6	4.0	2.1
1998[1]	8.0	5.1	3.7	1.7
1999[1]	7.0	4.1	3.2	1.9
2000[1]	7.1	3.9	3.1	1.8
Women				
1970	5.7	3.6	3.1	1.9
1971	7.2	4.5	4.3	2.4
1972[1]	6.6	4.3	4.2	2.3
1973[1]	6.2	3.9	3.0	2.1
1974	6.4	3.8	4.4	2.1
1975	10.5	7.1	6.3	3.4
1976	9.2	6.5	5.5	2.7
1977	9.7	6.2	5.7	3.6
1978[1]	7.9	4.9	3.6	2.6
1979	8.3	4.7	3.8	2.8
1980	8.9	5.0	4.1	2.2
1981	10.0	5.8	4.6	2.7
1982	12.2	7.8	5.3	3.3
1983	15.3	8.0	6.0	3.7
1984	11.7	6.3	5.3	2.7
1985	11.7	6.5	4.8	2.5
1986[1]	11.4	6.3	4.8	2.4
1987	10.9	5.8	4.0	2.1
1988	8.5	4.6	3.4	1.9
1989	8.1	4.2	3.7	2.0
1990[1]	9.5	4.6	3.5	1.7
1991	10.7	5.5	4.8	2.5
1992[1]	11.4	6.5	5.3	2.5
1993	11.2	5.8	4.8	2.9
1994[1]	12.4	6.2	4.7	2.9
1995	8.6	4.6	4.5	2.4
1996	10.7	4.4	3.8	2.1
1997[1]	11.3	4.5	3.6	2.0
1998[1]	9.3	4.4	3.5	1.9
1999[1]	8.8	3.9	3.0	1.9
2000[1]	9.1	3.8	2.9	1.4

[1] Data on educational attainment, beginning in 1992, reflect degrees or diplomas received rather than years of school completed and are not strictly comparable with data for prior years. In addition, the comparability of historical labor force data has been affected at various times by methodological and conceptual changes. For an explanation, see the Explanatory Notes and Estimates of Error section of *Employment and Earnings*, a monthly periodical published by the Bureau of Labor Statistics.

Table 59. **Civilian unemployment rates, approximating U.S. concepts, 10 countries, 1959-2000**

Year	United States	Canada	Australia	Japan	France	Germany (1)	Italy	Netherlands	Sweden	United Kingdom
1959	5.5	5.6	[2]2.1	2.3	1.6	2.0	4.8	–	[3]1.7	2.8
1960	5.5	6.5	[2]1.6	1.7	1.5	1.1	3.7	–	[3]1.7	2.2
1961	6.7	6.7	[2]3.0	1.5	1.2	.6	3.2	–	1.5	2.0
1962	5.5	5.5	[2]2.9	1.3	1.4	.6	2.8	–	1.5	2.7
1963	5.7	5.2	[2]2.3	1.3	1.6	.5	2.4	–	1.7	3.3
1964	5.2	4.4	1.4	1.2	1.2	.4	2.7	–	1.6	2.5
1965	4.5	3.6	1.3	1.2	1.6	.3	3.5	–	1.2	2.1
1966	3.8	3.4	1.6	1.4	1.8	.3	3.7	–	1.6	2.3
1967	3.8	3.8	1.9	1.3	2.1	1.3	3.4	–	2.1	3.3
1968	3.6	4.5	1.8	1.2	2.7	1.1	3.5	–	2.2	3.2
1969	3.5	4.4	1.8	1.1	2.3	.6	3.5	–	1.9	3.1
1970	4.9	5.7	1.6	1.2	2.5	.5	3.2	–	1.5	3.1
1971	5.9	6.2	1.9	1.3	2.8	.6	3.3	–	2.6	3.9
1972	5.6	6.2	2.6	1.4	2.9	.7	3.8	–	2.7	4.2
1973	4.9	5.5	2.3	1.3	2.8	.7	3.7	3.1	2.5	3.2
1974	5.6	5.3	2.7	1.4	2.9	1.6	3.1	3.6	2.0	3.1
1975	8.5	6.9	4.9	1.9	4.2	3.4	3.4	5.1	1.6	4.6
1976	7.7	[4]6.8	4.8	2.0	4.6	3.4	3.9	5.4	1.6	5.9
1977	7.1	7.8	5.6	2.0	5.2	3.4	4.1	4.9	1.8	6.4
1978	6.1	8.1	6.3	2.3	5.4	3.3	4.1	5.1	2.2	6.3
1979	5.8	7.2	6.3	2.1	6.1	2.9	4.4	5.1	2.1	5.4
1980	7.1	7.2	6.1	2.0	6.5	2.8	4.4	6.0	2.0	7.0
1981	7.6	7.3	5.8	2.2	7.6	4.0	4.9	8.9	2.5	10.5
1982	9.7	10.6	7.2	2.4	8.3	5.6	5.4	10.2	3.1	11.3
1983	9.6	11.5	10.0	2.7	8.6	[4]6.9	5.9	[4]11.4	3.5	11.8
1984	7.5	10.9	9.0	2.8	10.0	7.1	5.9	11.5	3.1	11.7
1985	7.2	10.2	8.3	2.6	10.5	7.2	6.0	9.6	2.8	11.2
1986	7.0	9.2	8.1	2.8	10.6	6.6	[4]7.5	10.0	2.6	11.2
1987	6.2	8.4	8.1	2.9	10.8	6.3	7.9	10.0	[4]2.2	10.3
1988	5.5	7.3	7.2	2.5	10.3	6.3	7.9	[4]7.7	1.9	8.6
1989	5.3	7.0	6.2	2.3	9.6	5.7	7.8	7.0	1.6	7.2
1990	[4]5.6	7.7	6.9	2.1	9.1	5.0	7.0	6.2	1.8	6.9
1991	6.8	9.8	9.6	2.1	9.6	[4]5.6	[4]6.9	5.9	3.1	8.8
1992	7.5	10.6	10.8	2.2	[4]10.4	6.7	7.3	5.6	5.6	10.1
1993	6.9	10.7	10.9	2.5	11.8	7.9	[4]10.2	6.5	9.3	10.5
1994	[4]6.1	9.4	9.7	2.9	12.3	8.5	11.2	7.2	9.6	9.7
1995	5.6	8.5	8.5	3.2	11.8	8.2	11.8	7.1	9.1	8.7
1996	5.4	8.7	8.6	3.4	12.5	8.9	11.7	6.3	9.9	8.2
1997	4.9	8.2	8.6	3.4	12.4	9.9	11.9	5.3	10.1	7.0
1998	4.5	7.5	8.0	4.1	11.8	9.3	12.0	4.0	8.4	6.3
1999	4.2	6.8	7.2	4.7	11.2	8.7	11.5	3.4	7.1	6.1[p]
2000	4.0	5.8	6.6	4.8	9.7[p]	8.3[p]	10.7[p]	–	5.8	5.5[p]

[1] Former West Germany through 1990, unified Germany thereafter.

[2] The Australian labor force survey was initiated in 1964. Unemployment rates for 1959-63 are estimates made by an Australian researcher.

[3] The Swedish labor force survey was initiated in 1961. The figures for 1959-60 are estimates made by the Organization for Economic Cooperation and Development.

[4] There are breaks in the series for the United States (1990, 1994), Canada (1976), France (1992), Germany (1983, 1991), Italy (1986, 1991, 1993), the Netherlands (1983, 1988), and Sweden (1987):

The United States (1990): The impact was to raise the unemployment rate by 0.1 percentage point.

The United States (1994): The impact was to raise the unemployment rate by 0.1 percentage point.

Canada (1976): Beginning with 1976, the unemployment rates are adjusted to more closely approximate U.S. concepts. The impact was to lower the unemployment rate 0.4 percentage point in 1976.

France (1992): The impact was to lower the unemployment rate by 0.1 percentage point.

Germany (1983): The impact was to lower the unemployment rate by 0.3 percentage point.

Germany (1991): The impact of including the former East Germany was to increase the 1991 unemployment rate 1.3 percentage points.

Italy (1986): The impact was to raise the unemployment rate by 1.2 percentage points.

Italy (1991): The impact was to raise the unemployment rate by approximately 0.3 percentage point.

Italy (1993): The impact was to raise the unemployment rate by approximately 1.1 percentage points.

Netherlands (1983): The impact was to lower the unemployment rate by about 2 percentage points.

Netherlands (1988): The impact was to lower the unemployment rate by 1.7 percentage points.

Sweden (1987): The net impact of the break and the BLS adjustment for students seeking work lowered the unemployment rate by 0.1 percentage point.

p = preliminary.

Dash indicates data not available.

Table 60. **Consumer price indexes, 16 countries, 1950-2000**

(Indexes: 1982-84=100)

Year	United States P	Canada P	Japan P	Australia P	Austria I	Belgium P	Denmark P	France P
1950	24.1	21.6	14.8	12.6	-	24.0	12.3	11.1
1955	26.8	24.4	20.2	18.9	-	26.8	15.0	14.5
1960	29.6	26.9	21.8	22.1	32.6	29.1	16.7	19.4
1961	29.9	27.1	23.0	22.6	33.8	29.3	17.4	20.0
1962	30.2	27.4	24.6	22.6	35.3	29.8	18.8	21.0
1963	30.6	27.9	26.4	22.7	36.2	30.4	19.8	22.0
1964	31.0	28.4	27.4	23.2	37.6	31.7	20.5	22.7
1965	31.5	29.1	29.5	24.1	39.5	32.9	21.8	23.3
1966	32.4	30.2	31.0	24.9	40.3	34.3	23.3	23.9
1967	33.4	31.3	32.3	25.7	41.9	35.3	25.0	24.6
1968	34.8	32.5	34.0	26.3	43.1	36.3	27.0	25.7
1969	36.7	34.0	35.8	27.1	44.4	37.6	27.9	27.3
1970	38.8	35.1	38.5	28.2	46.4	39.1	29.8	28.8
1971	40.5	36.2	40.9	29.9	48.5	40.8	31.5	30.3
1972	41.8	37.9	42.9	31.6	51.6	43.0	33.6	32.2
1973	44.4	40.7	47.9	34.6	55.5	46.0	36.7	34.6
1974	49.3	45.2	59.1	39.9	60.8	51.9	42.3	39.3
1975	53.8	50.1	66.0	45.9	65.9	58.5	48.4	43.9
1976	56.9	53.8	72.2	52.1	70.8	63.8	50.5	48.2
1977	60.6	58.1	78.1	58.5	74.6	68.4	56.1	52.7
1978	65.2	63.3	81.4	63.1	77.3	71.4	61.8	57.5
1979	72.6	69.1	84.4	68.8	80.2	74.6	67.7	63.6
1980	82.4	78.1	90.9	75.8	85.3	79.6	76.1	72.3
1981	90.9	85.6	95.4	83.2	91.1	85.6	85.0	82.0
1982	96.5	94.9	98.0	92.4	96.0	93.1	93.6	91.6
1983	99.6	100.4	99.8	101.8	99.2	100.3	100.0	100.5
1984	103.9	104.7	102.1	105.8	104.8	106.6	106.4	107.9
1985	107.6	108.9	104.2	112.9	108.2	111.8	111.4	114.2
1986	109.6	113.4	104.8	123.2	110.0	113.3	115.4	117.2
1987	113.6	118.4	104.9	133.7	111.6	115.0	120.0	120.9
1988	118.3	123.2	105.7	142.9	113.8	116.4	125.5	124.2
1989	124.0	129.3	108.1	154.1	116.6	120.0	131.5	128.6
1990	130.7	135.5	111.4	165.3	120.5	124.1	135.0	133.0
1991	136.2	143.1	115.1	170.7	124.4	128.1	138.2	137.2
1992	140.3	145.3	117.0	172.4	129.5	131.2	141.1	140.6
1993	144.5	147.9	118.5	175.5	134.1	134.8	142.9	143.5
1994	148.2	148.2	119.3	178.8	138.2	138.0	145.8	145.9
1995	152.4	151.4	119.2	187.1	141.3	140.1	148.8	148.4
1996	156.9	153.8	119.3	192.0	143.9	142.9	151.9	151.3
1997	160.5	156.2	121.5	192.5	145.8	145.3	155.3	153.2
1998	163.0	157.7	122.2	194.1	147.1	146.7	158.2	154.3
1999	166.6	160.5	121.8	197.0	147.9	148.3	162.0	155.0
2000	172.2	164.8	121.0	205.8	151.4	152.1	166.8	157.7

See footnotes at end of table.

Table 60. **Consumer price indexes, 16 countries, 1950-2000—Continued**

(Indexes: 1982-84=100)

Year	United Germany I	West Germany I[3]	Italy I[4]	Nether-lands I[5]	Norway I[11]	Spain II[12]	Sweden I	Switzer-land I[13]	United Kingdom I[14]
1950		33.9	8.9	21.2	13.6	5.5	13.4	33.2	9.8
1955		37.3	10.9	24.9	18.4	6.3	17.5	36.0	12.9
1960		40.9	11.9	28.3	21.1	9.1	21.0	38.2	14.6
1961		41.9	12.2	28.6	21.6	9.2	21.5	38.9	15.1
1962		43.1	12.7	29.3	22.8	9.7	22.5	40.6	15.8
1963		44.4	13.7	30.3	23.4	10.6	23.2	42.0	16.1
1964		45.4	14.5	32.0	24.7	11.3	23.9	43.3	16.6
1965		46.9	15.2	33.3	25.7	12.8	25.1	44.8	17.4
1966		48.6	15.5	35.2	26.6	13.6	26.8	46.9	18.1
1967		49.4	16.1	36.4	27.8	14.5	27.9	48.8	18.5
1968		50.2	16.3	37.8	28.7	15.2	28.4	50.0	19.4
1969		51.1	16.7	40.6	29.6	15.5	29.2	51.3	20.5
1970		52.8	17.5	42.1	32.8	16.4	31.3	53.1	21.8
1971		55.6	18.4	45.3	34.8	17.7	33.6	56.6	23.8
1972		58.7	19.4	48.9	37.3	19.2	35.6	60.4	25.5
1973		62.6	21.6	52.9	40.1	21.4	38.0	65.7	27.9
1974		67.2	25.7	58.1	43.8	24.8	41.7	72.1	32.3
1975		71.2	30.0	63.8	49.0	29.0	45.8	76.9	40.1
1976		74.2	35.1	69.6	53.5	34.1	50.5	78.2	46.8
1977		77.0	41.0	74.1	58.3	42.4	56.3	79.2	54.2
1978		79.0	46.0	77.2	63.1	50.8	61.9	80.1	58.7
1979		82.3	52.8	80.5	66.1	58.8	66.4	83.0	66.6
1980		86.7	64.0	86.1	73.3	67.9	75.5	86.3	78.5
1981		92.2	75.4	91.9	83.3	77.8	84.6	91.9	87.9
1982		97.1	87.8	97.2	92.7	89.0	91.9	97.1	95.4
1983		100.3	100.7	99.8	100.5	99.9	100.0	100.0	99.8
1984		102.7	111.5	103.0	106.8	111.1	108.1	102.9	104.8
1985		104.8	121.8	105.3	112.9	120.9	116.0	106.4	111.1
1986		104.7	129.0	105.6	121.0	131.5	121.0	107.2	114.9
1987		104.9	135.1	105.1	131.6	138.5	126.1	108.8	119.7
1988		106.3	141.9	106.1	140.4	145.1	133.4	110.8	125.6
1989		109.2	150.8	107.1	146.8	155.0	142.0	114.3	135.4
1990		112.1	160.5	109.9	152.8	165.4	156.7	120.5	148.2
1991	100.0	116.2	170.6	113.3	158.0	175.2	171.5	127.5	156.9
1992	105.1	120.9	179.4	116.9	161.7	185.6	175.6	132.7	162.7
1993	109.8	125.2	187.5	120.0	165.4	194.1	183.9	137.0	165.3
1994	112.8	128.6	195.0	123.3	167.7	203.3	187.8	138.3	169.3
1995	114.7	130.7	205.1	125.7	171.8	212.8	192.4	140.8	175.2
1996	116.3	132.4	213.4	128.2	174.0	220.3	193.5	141.9	179.4
1997	118.5	134.8	217.7	131.0	178.5	224.8	194.8	142.5	185.1
1998	119.7	136.0	222.0	133.6	182.5	228.8	194.2	142.7	191.4
1999	120.3	136.9	225.7	136.5	186.7	234.2	195.1	143.8	194.3
2000	122.6	139.7	231.4	140.0	192.5	242.1	196.9	146.0	200.1

I = All Households Index, II = Worker Households Index.

[1] All urban households from 1978; urban worker households prior to 1978.

[2] All households from January 1995; all urban households from September 1978 to December 1994; and middle income urban households prior to September 1978.

[3] Excluding agricultural and single person households.

[4] Urban worker households prior to September 1958.

[5] Excluding rent and several other services prior to 1976.

[6] Excluding rent prior to 1964.

[7] All households from 1991; urban worker households from 1962 to 1990; worker households in Paris only prior to 1962.

[8] Refers to the former West Germany. Middle income worker households prior to 1962.

[9] Middle income worker households prior to 1953.

[10] Middle income worker households prior to 1969.

[11] Urban worker households prior to 1960.

[12] Middle income worker households.

[13] Urban worker households prior to May 1993.

[14] Excluding pensioner and high income households.

Table 61. **Hourly compensation costs in U.S. dollars for production workers in manufacturing, 29 countries or areas, 1975-99**

Year	United States	Canada	Mexico	Australia[1]	Hong Kong SAR[2]	Israel	Japan	Korea	New Zealand	Singapore
1975	$6.36	$5.96	$1.47	$5.62	$0.76	$2.25	$3.00	$0.32	$3.15	$0.84
1976	6.92	7.06	1.84	6.22	.87	2.38	3.25	.42	2.94	.88
1977	7.59	7.34	1.34	6.29	1.03	2.66	3.96	.56	3.30	.91
1978	8.28	7.42	1.62	7.00	1.18	2.57	5.45	.76	4.06	1.05
1979	9.04	7.87	1.91	7.47	1.31	3.30	5.40	1.01	4.62	1.28
1980	9.87	8.67	2.21	8.47	1.51	3.79	5.52	.96	5.22	1.49
1981	10.87	9.57	2.82	9.80	1.55	4.18	6.08	1.02	5.59	1.80
1982	11.68	10.45	1.97	9.98	1.66	4.43	5.60	1.09	5.51	1.96
1983	12.14	11.16	1.42	9.31	1.51	4.88	6.03	1.15	5.09	2.21
1984	12.55	11.15	1.56	9.83	1.58	4.65	6.23	1.20	4.56	2.46
1985	13.01	10.95	1.59	8.20	1.73	4.06	6.34	1.23	4.38	2.47
1986	13.26	11.07	1.09	8.54	1.88	5.20	9.22	1.31	5.39	2.23
1987	13.52	12.02	1.04	9.46	2.09	6.34	10.79	1.59	6.64	2.31
1988	13.91	13.47	1.25	11.35	2.40	7.67	12.63	2.20	8.02	2.67
1989	14.32	14.72	1.43	12.41	2.79	7.69	12.53	3.17	7.65	3.15
1990	14.91	15.94	1.58	13.07	3.20	8.55	12.80	3.71	8.17	3.78
1991	15.58	17.28	1.84	13.53	3.58	8.79	14.67	4.61	8.20	4.35
1992	16.09	17.17	2.17	13.02	3.92	9.09	16.38	5.22	7.76	4.95
1993	16.51	16.55	2.40	12.49	4.29	8.82	19.21	5.64	8.85	5.25
1994	16.87	15.88	2.47	14.12	4.61	9.19	21.35	6.40	8.76	6.29
1995	17.19	16.10	1.51	15.27	4.82	10.54	23.82	7.29	9.91	7.33
1996	17.70	16.64	1.54	16.88	5.14	11.32	21.00	8.22	10.81	8.32
1997	18.27	16.47	1.78	16.58	5.42	12.04	19.54	7.86	10.81	8.24
1998	18.66	15.60	1.84	14.92	5.47	12.02	18.29	5.39	9.01	7.77
1999	19.20	15.60	2.12	15.89	5.44	11.91	20.89	6.71	9.14	7.18

Year	Sri Lanka	Taiwan	Austria[3]	Belgium	Denmark	Finland[4]	France	Germany[5]	Greece	Ireland
1975	$0.28	$0.40	$4.51	$6.41	$6.28	$4.61	$4.52	$6.31	$1.69	$3.03
1976	.24	.46	4.78	6.90	6.63	5.19	4.70	6.68	1.92	2.86
1977	.32	.53	5.67	8.29	7.25	5.58	5.21	7.81	2.29	3.12
1978	.26	.62	6.91	10.14	8.98	5.88	6.43	9.56	2.84	3.97
1979	.23	.79	7.96	11.82	10.53	7.51	7.69	11.21	3.37	4.85
1980	.22	1.00	8.88	13.11	10.83	8.24	8.94	12.25	3.73	5.95
1981	.21	1.21	7.78	11.31	9.41	8.04	8.02	10.45	3.66	5.59
1982	.24	1.24	7.78	9.49	8.87	8.03	7.85	10.28	4.12	5.71
1983	.25	1.29	7.81	9.08	8.69	7.54	7.74	10.19	3.78	5.67
1984	.25	1.42	7.35	8.63	8.03	7.77	7.29	9.37	3.74	5.59
1985	.28	1.50	7.58	8.97	8.13	8.16	7.52	9.53	3.66	5.92
1986	.29	1.73	10.73	12.43	11.07	10.71	10.28	13.34	4.07	8.02
1987	.30	2.26	13.67	15.25	14.61	13.44	12.29	16.91	4.81	9.31
1988	.31	2.81	14.52	15.82	15.19	15.70	12.95	18.16	5.22	10.00
1989	.31	3.52	14.16	15.48	14.53	16.85	12.65	17.66	5.49	9.61
1990	.35	3.93	17.75	19.17	18.04	21.03	15.49	21.88	6.76	11.66
1991	.40	4.36	18.09	19.75	18.39	21.25	15.65	22.63	6.95	11.91
1992	.40	5.09	20.29	22.05	20.20	19.92	17.47	25.38	7.60	13.12
1993	.42	5.24	20.16	21.44	19.11	16.63	16.79	25.19	7.23	11.90
1994	.45	5.56	21.55	23.07	20.30	19.06	17.63	26.70	7.73	12.42
1995	.48	5.94	25.32	26.85	24.07	24.10	20.01	31.58	9.17	13.81
1996	.48	5.95	24.80	25.97	24.11	23.41	19.93	31.20	9.59	13.91
1997	.46	5.90	21.97	22.88	22.03	21.32	17.99	27.68	9.20	13.61
1998	.47	5.27	22.21	23.20	22.69	21.66	18.28	27.52	8.91	13.39
1999	–	5.62	21.83	22.82	22.96	21.10	17.98	26.93	–	13.57

See footnotes at end of table.

Table 61. **Hourly compensation costs in U.S. dollars for production workers in manufacturing, 29 countries or areas, 1975-99—Continued**

Year	Italy	Luxem-bourg	Nether-lands	Norway	Portugal	Spain	Sweden	Switzer-land	United King-dom
1975	$4.67	$6.50	$6.58	$6.77	$1.58	$2.53	$7.18	$8.09	$3.37
1976	4.34	6.99	6.90	7.52	1.66	2.86	8.25	6.45	3.21
1977	4.99	8.08	8.02	8.56	1.58	3.18	8.88	6.88	3.45
1978	5.83	9.86	9.98	9.51	1.83	3.88	9.85	9.59	4.41
1979	7.06	11.12	11.41	10.28	1.88	5.31	11.33	10.56	5.70
1980	8.15	12.03	12.06	11.59	2.06	5.89	12.51	11.09	7.56
1981	7.57	9.85	9.91	11.01	2.04	5.55	11.80	10.14	7.31
1982	7.44	8.61	9.78	10.83	1.88	5.28	10.07	10.42	6.92
1983	7.70	8.15	9.49	10.32	1.62	4.56	8.89	10.46	6.49
1984	7.35	7.79	8.70	10.07	1.45	4.47	9.17	9.84	6.04
1985	7.63	7.81	8.75	10.37	1.53	4.66	9.66	9.66	6.27
1986	10.47	10.86	12.22	13.24	2.08	6.25	12.43	13.76	7.66
1987	13.02	13.35	15.14	16.79	2.52	7.63	15.12	17.08	9.09
1988	13.98	14.22	15.83	18.45	2.78	8.55	16.82	18.01	10.61
1989	14.40	13.92	15.00	18.29	2.97	8.96	17.52	16.73	10.56
1990	17.45	18.74	18.06	21.47	3.77	11.38	20.93	20.86	12.70
1991	18.32	17.14	18.13	21.63	4.24	12.29	22.15	21.69	13.74
1992	19.35	19.10	20.10	23.03	5.17	13.50	24.59	23.23	14.37
1993	15.80	18.74	19.94	20.21	4.50	11.82	17.59	22.63	12.41
1994	15.89	20.33	20.73	20.97	4.60	11.54	18.62	24.91	12.80
1995	16.22	23.35	24.12	24.38	5.37	12.88	21.44	29.30	13.67
1996	17.75	22.55	23.22	25.05	5.58	13.51	24.37	28.34	14.09
1997	17.57	19.02	20.98	23.72	5.38	12.24	22.22	24.19	15.47
1998	17.11	18.74	21.17	23.50	5.48	12.14	22.02	24.38	16.43
1999	16.60	–	20.94	23.91	–	12.11	21.58	23.56	16.56

[1] Production and nonproduction workers other than those in managerial, executive, professional, and higher supervisory positions.

[2] Hong Kong Special Administrative Region of China. Average of selected manufacturing industries.

[3] Excludes handicraft manufacturers, printing and publishing, and miscellaneous manufacturing.

[4] Including mining and electrical power plants.

[5] Former West Germany. Excluding handicraft manufacturers.

Dash indicates data not available.

Table 62. **Output per hour, hourly compensation, and unit labor costs in manufacturing, 12 countries, 1950-99**

(Indexes: 1992=100)

Year	United States	Canada	Japan	Belgium	Denmark	France	Germany (unified)	Former West Germany	Italy	Netherlands	Norway	Sweden	United Kingdom
	Output per hour												
1950	_	26.6	_	_	22.6	13.2	_	13.2	11.5	11.3	24.7	19.5	25.5
1955	_	32.7	8.6	_	24.6	16.6	_	19.7	16.1	14.4	28.7	21.3	27.5
1960	_	38.7	13.8	18.0	29.9	21.8	_	29.2	20.2	18.6	37.0	27.3	31.1
1961	_	40.8	15.6	18.2	31.6	23.1	_	30.6	21.8	19.6	38.3	28.7	31.2
1962	_	44.3	16.4	19.2	33.2	24.7	_	32.8	24.1	20.4	38.3	30.9	31.9
1963	_	46.2	17.7	19.9	34.3	26.0	_	34.1	24.8	21.2	40.3	32.7	33.6
1964	_	48.2	20.1	21.2	37.1	28.0	_	37.1	25.0	23.1	42.6	35.5	35.8
1965	_	50.3	21.0	22.3	38.9	30.0	_	39.3	27.9	24.7	45.1	38.2	36.8
1966	_	51.0	23.0	23.8	40.8	32.5	_	40.9	30.3	26.3	47.0	39.8	38.1
1967	_	51.5	26.0	25.1	43.8	34.5	_	43.4	31.8	28.3	48.7	43.2	39.8
1968	_	54.5	29.1	27.3	47.8	38.1	_	47.0	34.3	31.8	51.7	47.2	42.7
1969	_	57.4	33.4	29.9	49.8	40.5	_	50.4	35.8	34.9	56.5	50.9	43.7
1970	_	56.6	37.5	32.9	52.7	43.0	_	52.0	37.9	38.1	58.3	52.2	44.7
1971	_	60.0	39.8	35.1	56.3	45.5	_	54.0	38.5	40.4	60.0	54.5	46.8
1972	_	62.7	43.6	39.2	60.8	47.5	_	57.4	41.7	43.6	63.1	57.2	49.4
1973	_	66.2	47.8	43.5	66.9	50.9	_	61.1	45.2	48.3	66.9	61.4	53.0
1974	_	67.2	48.8	45.8	69.1	52.0	_	63.2	48.1	51.9	69.5	64.0	53.9
1975	_	64.7	50.2	47.6	76.1	53.8	_	65.9	48.5	51.2	68.8	65.0	52.8
1976	_	70.3	53.2	52.4	78.8	57.1	_	70.6	52.9	56.8	70.5	66.0	55.0
1977	68.3	74.9	55.3	55.0	80.4	60.5	_	72.7	54.0	61.4	71.5	65.0	55.5
1978	69.2	76.7	57.5	58.3	81.8	63.2	_	75.2	57.5	65.4	72.8	66.8	58.3
1979	70.1	75.9	62.2	61.4	85.6	66.2	_	78.4	63.0	68.6	78.1	72.0	58.7
1980	70.5	75.1	63.2	65.4	90.3	66.5	_	77.2	65.9	69.2	76.7	73.1	56.1
1981	74.1	77.8	65.2	70.1	91.8	68.5	_	78.7	67.4	70.8	78.5	72.7	59.0
1982	76.2	77.3	67.9	73.5	92.1	73.3	_	78.8	68.6	72.1	79.7	75.4	62.2
1983	80.0	82.4	68.8	81.0	96.8	75.0	_	82.6	71.8	77.8	82.4	80.9	67.1
1984	83.2	90.2	71.1	85.0	96.1	76.1	_	85.4	78.4	85.4	87.4	85.2	70.7
1985	86.0	92.4	76.5	87.0	96.7	79.1	_	89.1	82.6	89.0	90.2	86.2	72.3
1986	86.0	90.0	78.1	87.8	91.1	80.4	_	89.6	83.8	90.8	89.0	87.5	74.8
1987	92.9	90.6	80.2	88.9	90.6	81.8	_	88.1	85.7	91.6	93.3	89.2	79.4
1988	96.9	90.9	83.9	92.0	94.1	87.5	_	91.5	88.7	93.7	92.2	90.5	82.3
1989	95.7	93.7	88.5	96.9	99.6	91.9	_	94.6	89.4	97.1	94.6	93.2	86.1
1990	96.9	95.7	94.4	96.8	99.1	93.5	_	99.0	92.5	98.6	96.6	94.6	88.3
1991	97.9	95.3	99.0	99.1	99.6	98.9	99.0	101.9	95.2	99.6	97.5	95.5	92.1
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	102.1	104.5	101.7	102.5	104.5	100.6	101.8	100.6	102.9	101.4	100.6	107.3	104.0
1994	107.3	109.9	103.3	108.4	_	108.5	109.9	107.9	105.6	112.7	101.4	119.4	106.8
1995	113.8	111.0	111.0	113.2	_	114.5	112.8	111.2	109.3	117.7	102.0	121.9	104.3
1996	117.0	109.5	116.1	117.1	_	115.0	115.3	115.1	109.5	119.7	102.0	124.5	102.3
1997	121.2	112.8	121.0	126.8	_	122.6	121.0	121.8	111.5	121.9	103.0	132.9	103.0
1998	126.8	112.5	121.2	128.8	_	124.0	121.0	127.1	111.1	124.8	103.9	136.7	102.9
1999	135.1	115.2	125.8	128.9	_	128.9	122.4	_	112.9	127.3	103.9	140.8	107.5

See footnotes at end of table.

Table 62. Output per hour, hourly compensation, and unit labor costs in manufacturing, 12 countries, 1950-99—Continued

(Indexes: 1992=100)

Year	United States	Canada[1]	Japan	Belgium	Denmark	France[1]	Germany (unified)	Former West Germany	Italy	Netherlands	Norway	Sweden[1]	United Kingdom[1]
	Hourly compensation in national currency												
1950	8.7	5.4	_	_	2.5	1.6	_	3.4	0.8	3.1	2.2	1.9	1.6
1955	11.7	7.7	3.1	_	3.4	2.8	_	5.0	1.2	4.5	3.4	2.9	2.3
1960	14.9	9.9	4.3	5.4	4.6	4.3	_	8.1	1.8	6.4	4.7	4.1	3.1
1961	15.3	10.2	5.0	5.7	5.2	4.7	_	9.1	1.8	7.3	5.2	4.5	3.3
1962	15.9	10.6	5.7	6.2	5.6	5.2	_	10.3	2.1	7.8	5.7	5.0	3.4
1963	16.4	11.0	6.4	6.8	6.1	5.7	_	11.0	2.5	8.6	6.1	5.5	3.6
1964	17.0	11.5	7.2	7.7	6.6	6.2	_	11.9	2.6	9.9	6.5	6.0	3.8
1965	17.4	12.2	8.1	8.5	7.4	6.7	_	13.1	2.8	11.1	7.2	6.6	4.2
1966	18.2	13.1	8.9	9.4	8.4	7.1	_	14.2	3.0	12.5	7.8	7.3	4.5
1967	19.2	13.7	10.0	10.3	9.4	7.6	_	15.0	3.3	13.8	8.8	8.1	4.7
1968	20.7	14.7	11.6	11.0	10.3	8.6	_	16.1	3.5	15.4	9.6	8.8	5.0
1969	22.2	15.9	13.8	12.1	11.6	9.2	_	17.6	3.9	17.4	10.6	9.6	5.5
1970	23.7	17.0	16.4	13.7	13.3	10.3	_	20.7	4.7	20.2	11.8	10.7	6.3
1971	25.2	18.1	19.0	15.9	15.2	11.6	_	23.2	5.4	23.1	13.5	12.1	7.2
1972	26.5	19.4	21.9	18.8	18.9	12.8	_	25.8	6.1	26.5	15.2	13.5	8.3
1973	28.5	21.1	26.7	22.3	20.5	14.7	_	29.0	7.2	31.6	17.1	15.2	9.5
1974	31.6	24.6	35.0	27.4	24.8	17.4	_	33.0	9.3	37.7	20.1	17.9	11.4
1975	35.5	28.2	40.8	33.1	29.6	21.3	_	38.4	11.8	43.1	24.0	21.9	15.1
1976	38.4	32.4	43.9	38.3	33.0	24.4	_	39.1	14.6	48.1	27.7	25.7	17.6
1977	41.8	36.0	48.5	41.4	36.5	27.7	_	42.8	17.3	52.5	31.1	28.1	19.8
1978	45.2	38.7	51.7	44.4	40.2	31.2	_	45.9	20.0	56.8	34.1	31.1	23.1
1979	49.8	42.8	55.0	47.2	45.0	35.4	_	49.3	24.2	61.1	35.8	33.5	27.5
1980	55.6	47.4	58.5	52.5	49.8	40.8	_	53.6	28.4	64.4	39.0	37.3	33.2
1981	61.1	53.7	62.8	57.3	54.6	47.2	_	57.0	34.3	67.4	43.3	41.2	38.5
1982	67.0	60.9	65.7	59.9	59.5	58.1	_	60.4	40.4	71.5	48.2	44.2	42.4
1983	68.8	65.2	67.5	65.7	63.6	61.9	_	63.1	47.2	74.9	52.9	49.0	45.5
1984	71.2	68.9	69.5	71.4	67.2	67.2	_	66.0	54.1	77.7	57.9	53.2	49.1
1985	75.1	71.8	72.4	75.3	71.7	72.8	_	70.0	60.8	81.8	63.4	58.6	53.1
1986	78.5	72.8	76.0	77.3	73.2	75.8	_	72.8	63.3	85.0	69.1	63.4	57.6
1987	80.7	74.6	77.8	79.7	80.1	78.8	_	76.0	66.8	87.8	78.4	67.6	64.8
1988	84.0	77.4	79.1	81.1	82.9	81.6	_	79.1	69.3	87.7	83.3	71.8	67.7
1989	86.6	82.5	84.0	85.9	87.7	86.0	_	83.2	75.9	88.5	87.2	79.4	72.9
1990	90.8	88.3	90.5	90.1	92.7	90.6	_	89.4	84.4	90.8	92.3	87.8	80.9
1991	95.6	95.0	96.4	97.3	95.9	96.2	92.2	95.1	93.6	95.2	97.5	95.5	90.5
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	102.7	102.0	102.8	104.8	104.6	103.0	106.4	105.9	107.5	103.7	101.5	97.1	104.3
1994	105.6	103.7	104.9	106.1	_	105.6	112.0	111.7	107.8	108.2	104.4	99.8	106.5
1995	107.9	106.0	108.3	109.2	_	108.4	118.2	117.7	112.8	110.6	109.2	106.3	107.0
1996	109.3	105.1	109.2	110.9	_	110.2	123.8	123.7	120.3	113.2	113.6	114.1	107.1
1997	111.4	108.2	112.9	114.7	_	113.0	126.3	126.8	125.4	118.2	118.7	119.1	110.3
1998	117.3	111.2	115.8	116.4	_	114.9	127.5	127.8	123.0	119.8	126.2	124.1	114.6
1999	122.0	113.0	115.5	116.8	_	119.3	129.6	_	126.5	123.5	133.4	127.1	119.7

See footnotes at end of table.

Table 62. Output per hour, hourly compensation, and unit labor costs in manufacturing, 12 countries, 1950-99—Continued

(Indexes: 1992=100)

Year	United States	Canada[1]	Japan	Belgium	Denmark	France[1]	Germany (unified)	Former West Germany	Italy	Netherlands	Norway	Sweden[1]	United Kingdom[1]
	Hourly compensation in U.S. dollars												
1950	8.7	6.0	_	_	2.2	2.4	_	1.3	1.7	1.4	1.9	2.1	2.5
1955	11.7	9.4	1.1	_	3.0	4.3	_	1.9	2.4	2.1	2.9	3.3	3.8
1960	14.9	12.4	1.5	3.5	4.0	4.8	_	3.0	3.2	3.0	4.1	4.8	4.9
1961	15.3	12.2	1.8	3.7	4.5	5.1	_	3.5	3.5	3.5	4.5	5.0	5.2
1962	15.9	12.0	2.0	4.0	4.9	5.6	_	4.0	4.1	3.8	5.0	5.6	5.5
1963	16.4	12.3	2.2	4.4	5.4	6.1	_	4.3	4.9	4.2	5.3	6.2	5.7
1964	17.0	12.9	2.5	5.0	5.8	6.6	_	4.7	5.2	4.8	5.6	6.8	6.1
1965	17.4	13.6	2.8	5.5	6.4	7.2	_	5.1	5.5	5.4	6.2	7.5	6.6
1966	18.2	14.6	3.1	6.1	7.3	7.6	_	5.5	5.9	6.1	6.8	8.2	7.2
1967	19.2	15.4	3.5	6.7	8.1	8.2	_	5.9	6.5	6.7	7.6	9.1	7.3
1968	20.7	16.5	4.1	7.1	8.3	9.2	_	6.3	7.0	7.5	8.4	9.9	6.8
1969	22.2	17.8	4.9	7.7	9.3	9.4	_	7.0	7.6	8.5	9.3	10.8	7.4
1970	23.7	19.7	5.8	8.9	10.7	9.9	_	8.9	9.2	9.8	10.3	12.0	8.6
1971	25.2	21.7	6.9	10.5	12.4	11.1	_	10.4	10.8	11.6	11.9	13.8	10.0
1972	26.5	23.7	9.1	13.7	14.7	13.4	_	12.6	12.8	14.5	14.3	16.5	11.8
1973	28.5	25.5	12.5	18.5	20.5	17.5	_	17.1	15.1	20.0	18.5	20.3	13.2
1974	31.6	30.3	15.2	22.6	24.8	19.2	_	19.9	17.7	24.7	22.6	23.5	15.1
1975	35.5	33.5	17.4	29.0	31.1	26.3	_	23.1	22.3	30.1	28.6	30.8	19.0
1976	38.4	39.8	18.8	31.9	32.9	27.0	_	24.3	21.7	32.0	31.8	34.3	17.9
1977	41.8	41.0	22.9	37.1	36.7	29.8	_	28.8	24.2	37.6	36.3	38.7	19.6
1978	45.2	41.0	31.4	45.4	44.1	36.7	_	35.8	29.0	48.2	40.4	40.2	25.1
1979	49.6	43.9	32.0	51.7	51.6	44.0	_	42.0	35.9	53.5	43.9	45.6	33.0
1980	55.6	49.0	32.7	57.7	53.2	51.1	_	48.1	40.8	57.0	49.0	51.4	43.7
1981	61.1	54.1	38.0	49.5	46.2	46.0	_	39.3	37.1	47.4	46.9	47.4	44.1
1982	67.0	59.6	33.4	42.1	43.0	45.1	_	38.8	36.8	47.1	46.4	41.0	42.0
1983	68.8	63.9	36.0	41.3	42.0	43.0	_	38.6	38.2	46.1	45.0	37.2	39.0
1984	71.2	64.3	37.1	39.7	39.2	40.7	_	38.3	37.9	42.8	44.1	37.5	37.2
1985	75.1	63.5	38.5	40.8	40.9	42.9	_	37.2	39.2	43.3	45.8	39.7	39.0
1986	78.5	63.3	57.2	55.6	54.6	57.9	_	52.4	52.3	61.1	58.0	51.8	47.8
1987	80.7	68.0	68.2	68.6	70.6	69.2	_	68.0	63.5	76.2	72.3	62.1	60.2
1988	84.0	78.0	78.2	70.9	74.3	72.5	_	70.4	65.5	78.0	79.3	68.2	68.3
1989	86.6	84.1	77.1	70.1	72.3	71.4	_	69.1	68.1	73.4	78.4	71.3	67.7
1990	90.8	91.5	79.1	86.8	90.4	88.0	_	86.4	86.8	87.7	91.7	86.4	81.7
1991	95.6	100.1	90.8	91.5	90.5	90.2	86.7	89.4	92.9	89.4	93.3	91.9	90.5
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	102.7	95.5	117.3	97.4	97.4	98.2	100.4	100.0	84.2	98.1	88.8	72.6	88.7
1994	105.6	91.7	130.1	102.1	_	100.8	107.8	107.6	82.4	104.6	91.9	75.3	92.4
1995	107.9	93.3	148.2	119.1	_	115.1	128.9	128.3	85.3	121.2	107.1	88.7	95.6
1996	109.3	93.1	127.2	115.1	_	114.1	128.5	128.4	96.1	118.0	109.3	99.1	94.7
1997	111.4	94.4	118.3	103.0	_	102.5	113.7	114.0	90.7	104.6	104.1	90.7	102.3
1998	117.3	90.6	112.0	103.0	_	103.1	113.1	113.3	87.3	106.2	103.8	90.9	107.5
1999	122.0	91.9	128.8	99.2	_	102.6	110.3	_	85.8	105.0	106.2	89.5	109.6

See footnotes at end of table.

Table 62. Output per hour, hourly compensation, and unit labor costs in manufacturing, 12 countries, 1950-99—Continued

(Indexes: 1992=100)

Year	United States	Canada[1]	Japan	Belgium	Denmark	France[1]	Germany (unified)	Former West Germany	Italy	Netherlands	Norway	Sweden[1]	United Kingdom[1]
	Unit labor costs in national currency												
1950	–	20.3	–	–	11.0	12.2	–	25.5	7.3	27.5	8.9	9.5	8.3
1955	–	23.5	36.4	–	13.8	17.0	–	25.4	7.5	31.3	11.7	13.8	8.3
1960	–	25.6	31.3	30.1	15.4	19.5	–	27.8	7.9	34.4	12.8	15.0	9.8
1961	–	25.0	32.1	31.5	16.3	20.3	–	29.7	8.1	37.1	13.5	15.6	10.5
1962	–	23.9	34.9	32.1	17.0	21.1	–	31.5	8.6	38.2	14.9	16.2	10.8
1963	–	23.8	36.1	34.2	17.9	21.8	–	32.2	9.9	40.4	15.1	16.9	10.7
1964	–	23.8	35.8	36.3	17.9	22.0	–	32.1	10.5	42.0	15.2	16.9	10.7
1965	–	24.2	38.7	38.3	18.9	22.3	–	33.3	10.1	45.1	15.9	17.4	11.4
1966	–	25.6	38.9	39.6	20.5	21.8	–	34.7	9.9	47.3	16.7	18.2	11.9
1967	–	26.7	38.5	40.9	21.4	22.1	–	34.5	10.4	48.8	18.0	18.7	11.7
1968	–	26.9	40.0	40.3	21.6	22.6	–	34.3	10.2	48.4	18.7	18.5	11.7
1969	–	27.6	41.4	40.4	23.4	22.7	–	35.0	10.9	50.0	18.8	18.8	12.5
1970	–	30.1	43.8	41.7	25.2	24.0	–	39.8	12.4	52.9	20.3	20.6	14.1
1971	–	30.2	47.8	45.2	27.1	25.5	–	42.9	14.1	57.1	22.5	22.2	15.4
1972	–	31.0	50.1	47.9	27.8	26.9	–	44.7	14.8	60.8	24.1	23.6	16.8
1973	–	32.0	56.2	51.2	30.6	28.8	–	47.5	15.8	65.3	25.5	24.8	17.9
1974	–	38.6	71.8	59.9	35.9	33.5	–	52.1	19.4	72.7	28.9	27.9	21.1
1975	–	43.6	81.3	69.5	38.9	39.5	–	55.2	25.4	84.3	34.8	33.7	28.7
1976	–	46.2	82.6	73.1	41.8	42.7	–	55.4	27.7	84.8	39.3	38.9	31.9
1977	61.2	48.1	87.6	75.3	45.4	45.8	–	58.8	32.1	85.5	43.5	43.3	35.7
1978	65.3	50.5	89.8	78.1	49.3	49.4	–	61.1	34.7	86.8	46.8	46.6	41.1
1979	70.7	56.0	88.4	76.8	52.5	53.5	–	62.9	38.4	89.0	45.8	46.6	48.5
1980	78.8	63.2	92.5	80.3	55.0	61.3	–	69.4	43.1	93.0	50.8	51.0	59.1
1981	82.4	69.0	96.0	81.7	59.5	69.0	–	72.4	50.9	95.1	56.6	56.6	65.3
1982	87.9	78.8	96.7	81.5	64.6	76.5	–	76.7	58.9	99.2	60.5	58.7	68.2
1983	86.0	79.0	98.0	81.1	65.8	82.6	–	76.4	65.7	96.2	64.2	60.7	67.8
1984	85.6	76.3	97.7	84.0	69.9	88.2	–	77.3	68.9	90.9	60.3	62.5	69.4
1985	87.3	77.7	94.6	86.5	74.2	92.0	–	78.6	73.5	91.8	70.2	68.0	73.5
1986	91.2	81.0	99.9	88.0	80.4	94.3	–	81.2	75.6	93.7	77.7	72.4	77.0
1987	86.9	82.4	97.0	89.7	88.4	96.1	–	86.3	78.0	95.9	84.1	75.8	81.6
1988	88.7	85.2	94.3	88.1	88.2	93.3	–	86.5	79.9	93.6	90.4	79.4	82.3
1989	90.5	88.0	94.9	88.7	88.1	93.6	–	87.9	84.9	91.1	92.2	85.1	84.7
1990	93.7	92.3	95.9	93.0	93.6	96.8	–	90.3	91.3	92.1	95.6	92.9	91.7
1991	97.6	98.7	97.4	98.1	98.3	99.3	93.1	93.3	98.4	95.5	100.0	100.0	98.2
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.6	97.6	101.1	102.3	100.1	102.4	104.5	105.3	104.4	102.3	100.9	99.5	100.3
1994	98.5	94.3	101.5	97.9	93.0	97.3	101.9	103.6	102.1	98.0	102.9	83.5	99.7
1995	94.8	95.5	97.8	98.4	93.8	94.7	104.7	105.9	103.2	94.0	107.0	87.2	102.6
1996	93.5	95.9	94.0	94.7	100.9	95.9	107.4	107.5	109.9	94.5	111.4	91.7	104.8
1997	91.9	95.9	93.3	90.5	102.0	92.2	104.4	103.9	112.4	95.3	115.2	89.6	107.1
1998	92.5	98.8	95.5	90.3	102.8	92.7	105.3	100.4	110.8	96.1	121.5	90.8	111.4
1999	90.3	98.1	91.8	90.6	108.9	92.6	105.9	–	112.0	97.0	128.4	90.3	111.4

See footnotes at end of table.

Table 62. Output per hour, hourly compensation, and unit labor costs in manufacturing, 12 countries, 1950-99—Continued

(Indexes: 1992=100)

Year	United States	Canada[1]	Japan	Belgium	Denmark	France[1]	Germany (unified)	Former West Germany	Italy	Netherlands	Norway	Sweden[1]	United Kingdom[1]
	Unit labor costs in U.S. dollars												
1950	–	22.5	–	–	9.6	18.5	–	9.5	14.4	12.7	7.8	10.7	10.0
1955	–	28.8	12.8	–	12.0	25.7	–	9.4	14.8	14.5	10.2	15.5	13.2
1960	–	32.0	11.0	19.4	13.5	21.1	–	10.4	15.6	18.0	11.2	16.9	15.8
1961	–	29.8	11.3	20.3	14.3	21.9	–	11.6	16.0	18.0	11.8	17.6	16.7
1962	–	27.0	12.3	20.7	14.9	22.8	–	12.3	17.1	18.7	12.9	18.3	17.2
1963	–	26.7	12.7	22.0	15.7	23.5	–	12.6	19.7	19.8	13.1	18.9	17.0
1964	–	26.7	12.5	23.5	15.6	23.7	–	12.6	20.7	20.9	13.2	19.1	17.0
1965	–	27.1	13.6	24.8	16.5	24.0	–	13.0	19.9	22.0	13.8	19.6	18.0
1966	–	28.7	13.6	25.6	17.9	23.5	–	13.8	19.5	23.0	14.5	20.6	18.9
1967	–	29.9	13.5	26.5	18.5	23.7	–	13.5	20.5	23.8	15.6	21.1	18.3
1968	–	30.2	14.1	25.9	17.4	24.2	–	13.4	20.3	23.5	16.2	20.9	15.9
1969	–	31.0	14.6	25.9	16.8	23.1	–	13.9	21.3	24.3	16.4	21.1	16.9
1970	–	34.8	15.5	27.0	20.3	23.0	–	17.1	24.4	25.7	17.8	23.1	19.2
1971	–	36.1	17.4	29.9	22.1	24.5	–	19.3	28.1	28.8	19.9	25.3	21.3
1972	–	37.8	21.0	35.0	24.1	28.2	–	21.9	30.8	33.3	22.7	28.9	23.8
1973	–	38.6	28.3	42.4	30.7	34.4	–	28.0	33.5	41.3	27.6	33.1	24.8
1974	–	45.2	31.2	49.5	35.6	38.9	–	31.5	36.8	47.6	32.5	38.7	28.0
1975	–	51.8	34.8	60.9	40.9	48.8	–	35.1	47.9	58.7	41.5	47.4	38.1
1976	–	56.6	35.3	60.9	41.8	47.3	–	34.4	41.1	56.5	44.8	52.0	32.6
1977	61.2	54.7	41.5	67.6	45.7	49.3	–	39.6	44.8	61.3	50.8	56.4	35.3
1978	65.3	53.5	54.6	77.8	54.1	58.1	–	47.8	50.4	70.7	55.5	60.1	44.8
1979	70.7	57.8	51.3	84.2	60.3	66.5	–	53.6	57.0	78.0	58.2	63.3	58.3
1980	78.8	65.3	51.8	88.3	58.9	76.8	–	59.6	62.0	82.3	63.9	70.2	77.9
1981	82.4	69.5	55.2	70.8	50.4	67.1	–	49.9	55.1	66.9	61.3	65.1	74.8
1982	87.9	77.2	49.2	57.2	46.7	61.8	–	49.3	53.6	65.3	58.2	54.4	67.4
1983	86.0	77.5	52.3	51.0	43.4	57.4	–	46.7	53.3	59.3	54.7	46.1	58.2
1984	85.6	71.2	52.2	46.8	40.8	53.5	–	42.4	48.4	49.8	50.5	44.0	52.8
1985	87.3	68.7	50.3	46.9	42.3	54.2	–	41.7	47.5	48.7	50.8	46.1	54.0
1986	91.2	70.4	75.2	63.4	60.0	72.1	–	58.5	62.4	67.3	65.3	59.2	64.0
1987	86.9	75.1	85.0	77.2	77.9	84.6	–	74.9	74.1	83.2	77.5	69.6	75.8
1988	86.7	83.6	93.2	77.0	79.0	82.9	–	76.9	75.6	83.2	86.1	75.4	83.0
1989	90.5	89.6	87.1	72.3	72.6	77.6	–	73.0	76.2	75.5	82.9	76.8	78.6
1990	93.7	95.6	83.8	89.5	91.3	94.1	–	87.3	93.8	88.9	95.0	91.3	92.6
1991	97.6	105.1	91.7	92.3	90.8	93.1	87.6	87.6	97.6	89.8	95.7	96.3	98.3
1992	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1993	100.8	91.4	115.4	95.1	93.2	95.8	98.6	99.4	81.8	96.8	88.3	87.7	85.3
1994	98.5	83.4	125.9	94.2	88.3	92.0	98.2	99.8	78.1	92.8	90.7	83.1	88.5
1995	94.8	84.1	131.7	105.2	101.1	100.6	114.2	115.5	78.0	103.0	105.0	71.1	91.7
1996	93.5	85.0	109.6	98.3	105.0	99.2	111.5	111.8	67.8	98.6	107.1	79.6	92.6
1997	91.9	83.6	97.7	81.2	93.1	83.6	94.0	93.5	61.3	85.9	101.0	68.3	99.3
1998	92.5	80.5	92.4	80.0	92.6	83.2	93.5	89.1	78.6	85.2	100.0	66.5	104.5
1999	90.3	79.8	102.4	76.9	94.1	79.6	90.1	–	75.9	82.4	102.2	63.6	102.0

[1]Compensation adjusted to include changes in employment taxes that are not compensation to employees, but are labor costs to employers.

Dash indicates data not available.

NOTE: The data relate to employees (wage and salary earners) in Belgium, Denmark, and Italy; and to all employed persons (employees and self-employed workers) in the other countries.

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